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ABSTRACT

This book provides a brief and succinct introduction to AppleWorks and is designed for use by teachers who are already familiar with the three AppleWorks tools: the word processor, the database, and the spreadsheet. "Classworks" (developed for grades 8 and 9) emphasizes computer work in which the teacher serves as troubleshooter, reference person, and model for the effective use of the program. Classworks materials include: (1) unit and lesson objectives; (2) lesson guides; (3) a set of overhead transparency masters; (4) student worksheets; (5) reference sheets; (6) a Student Data Disk; (7) a Teacher Data Disk; and (8) quizzes. The data disks, which are not included in this document, are for use with the Apple IIe/IIc microcomputers with two disk drives. Eleven lessons provide instruction in word processing, creating databases and database reports, and spreadsheet activities. Each lesson is composed of a presentation using an overhead projector and a computer demonstration. Class time needed to complete lessons varies. Reference sheets provided for lessons contain step-by-step instructions and sample screen displays to which students may refer during the classroom presentation. It is noted that students learn better when working in groups of two or three. Quiz questions may be found on the Teacher Data Disk, and may be edited according to individual instructional settings and student needs. (DB)

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ACKNOWLEDGMENTS

ClassWorks has benefited from the efforts of a number of people. I am especially indebted to Jack Turner, Computer Coordinator for the Eugene Public Schools, for providing the initial impetus for the project and for putting me in contact with classroom teachers willing to test the materials. Among the teachers who tested all or part of ClassWorks, I want to particularly thank Greg Osborne and Steve Sax for their detailed and constructive comments. Finally, I would like to thank the students who used ClassWorks in one of its earlier drafts. They were a diverse group. They included middle school students, high school students, teachers in inservice sessions, and teachers and prospective teachers in computers in education courses. Whatever the level, all provided a unique prospective on how the AppleWorks data management tools are used and effectively learned.

Thank you for the positive response to ClassWorks and especially to those of you who provided constructive criticism and suggestions for additional activities. It has all helped to make a good product better.

Thank you,

Rick Thomas
March, 1990

FOREWARD

ClassWorks has been improved and now includes revisions to the original as well as a number of new activities. These include a new CARS database and CAR COST spreadsheet, new spreadsheet files especially for the math classroom, and a new OLYMPICS database file containing the results of the 1988 Summer Olympics. Because teacher response to the materials has been so positive, I have tried to incorporate your suggestions for improvement without doing damage to an already successful product.

In addition to the revisions and new material, you will also find that several of the spreadsheet files now include TimeOut: Graph files and suggestions for their use as part of the activities. TimeOut is a series of software supplements to AppleWorks that can be made a part of your AppleWorks disks. The programs all have the same look and feel of AppleWorks making them easy to learn and use. The graph program is particularly useful in providing students with a visual image of the relationships involved in the spreadsheet activities.

Rick Thomas

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INTRODUCTION

Becoming computer literate means learning to solve problems with the help of computers and computer programs. ClassWorks helps students to solve problems using the three AppleWorks data management tools: the word processor, the database, and the spreadsheet. ClassWorks can be used as part of a Computer Literacy or Problem Solving with Computers course, or portions of the book may be used to introduce any of the three AppleWorks tools in other classes.

The assumption guiding the development of ClassWorks is that once students are familiar with the most important features of these three tools, they use them on a regular basis, and will increase their knowledge of them as needed. Students in science classes, for example, will be able to use the spreadsheet to process experimental data. Business students can use spreadsheets to create and manage office reports. The database can be used effectively in social studies to organize data and identify patterns and relationships or in a health class to maintain a personal diet or exercise log. The word processor, of course, can be used in any subject area to prepare written reports. In addition to learning to use each of the three AppleWorks tools individually, ClassWorks provides an introduction to their integrated use, so that students will be able to include spreadsheet and/or database tables in word processed reports.

Just as a word processor is of limited value if students do not know how to write or do not use the tool to develop composition skills, so too are the database and spreadsheet limited if students do not develop the conceptual skills needed to organize information in a meaningful way. Because of this, ClassWorks also includes an introduction to the design and creation of database and spreadsheet models independent of the use of AppleWorks.

ClassWorks provides the classroom teacher with a unique option. It is a simple fact that instructional materials are never entirely satisfactory. Teachers may like a product, but disagree with aspects of its organization, with the way in which questions are posed, or wish another aspect of the topic were explored. Adapting text based materials is possible, although always awkward and often times illegal. ClassWorks includes disk copies of all student activities as AppleWorks files. The ClassWorks disks are not copy protected. As a teacher you are welcome and encouraged to modify the materials to best suit your needs. The worksheets can then be printed and duplicated for student use. It is not, however, permissible to reproduce files or printed materials from ClassWorks for use outside of your school.

Audience

ClassWorks was developed for eighth and ninth grade students, although it has been used successfully with middle school through high school age students, and with teachers in teacher training and workshop settings.

ClassWorks does not include materials for keyboarding instruction.

Hardware/Software Requirements

ClassWorks requires the AppleWorks software, which is not included. Some lessons also have the option of using the TimeOut: Graph series by Beagle Bros.

ClassWorks was designed for a computer lab setting. There should be approximately one computer system for every 2 -3 students. Each system should consist of:

one 64K/128K APPLE IIe/IIc with
two disk drives

There should be a minimum of one printer for every four or five computer systems. Label each printer in a manner consistent with the AppleWorks printer options (e.g., Imagewriter, APPLE DMP). Many teachers have found it convenient to make sure that the classroom set of AppleWorks Program disks is configured in advance to manage the available printers. This can be done through the AppleWorks "Other Activities" and "Specify Information about Your Printer" menu options (see the "About Printers" section in the AppleWorks manual).

An LCD projection unit or one or two large screen (19"+), monochrome monitors are needed for purposes of demonstration. The effectiveness of any computer demonstration is highly dependent upon the lighting conditions in your classroom. You will need to dim the lights in the room to view the 80 column AppleWorks display. If you use large screen monitors, experiment with their placement before you attempt a demonstration for your class.

Each of the lessons includes overhead transparencies. The transparencies have been designed to be projected in their entirety from a distance of approximately 15-20 feet. An overhead projector and screen is needed for each lesson.

There should be one copy of the AppleWorks Startup and Program disks for each computer. Prepare a copy of the ClassWorks STUDENT data disk for each student.

Teacher Background

These materials are for teachers who are already familiar with AppleWorks. ClassWorks presumes comfort on the part of the teacher at the level of understanding and use suggested in the objectives below. For teachers new to computers and data management software, though, ISTE also publishes AppleWorks for Educators by Linda Rathje, a self-paced introduction to AppleWorks.

How to Use ClassWorks

Students need to be introduced to the mechanics of AppleWorks in a brief and succinct fashion. ClassWorks emphasizes computer work in which the teacher serves as troubleshooter, reference person, and model for the effective use of the program.

ClassWorks materials include:

1) unit and lesson objectives
2) lesson guides
3) an annotated set of overhead transparency masters
4) student worksheets
5) reference sheets
6) STUDENT data disk
7) TEACHER data disk
8) quizzes

Class time needed to complete individual lessons will vary from one or two days to the two weeks needed for developing database and spreadsheet projects.

Each lesson includes a brief presentation using the overhead projector and a computer demonstration. Comments on the back of each transparency master correlate with the objectives identified for each lesson. These comments also include hints about more efficient use of the program, suggested questions, and space to add additional notes.

Students' initial experience with each AppleWorks tool is intended to be completed in groups of two or three. Recent research suggests that students are more comfortable and more motivated with this arrangement, are able to answer questions for one another that would otherwise require teacher intervention and, by talking through new ideas, learn more effectively.

Lesson activities vary in level of difficulty. Commentary in each lesson makes note of differences. The commentary also includes discussion of problems teachers have encountered and possible extensions of the lessons. Note that you may not want to use all of the lessons with younger students. Building a spreadsheet, for example, requires an understanding of the use of variables and formulas that your students may not yet have.

All of the ClassWorks worksheets are included on either the TEACHER or STUDENT data disks. This means that you are free to edit the material as needed.

Each lesson includes a reference sheet for the AppleWorks activities involved in the lesson. These include step-by-step instructions and sample screen displays from the program. Instructors have found it useful to have students refer to the reference sheets during classroom demonstrations, taking notes as needed.

Quiz questions are provided on the TEACHER data disk. Use the word processor to select and edit appropriate questions from the QUIZ files as you build your own tests. Note that questions are repeated in different formats (true/false, multiple choice, etc.) so that you can construct parallel forms of the same test.

ClassWorks Objectives

EQUIPMENT SKILLS:

Students will be able to:

1) Load AppleWorks.
2) Use AppleWorks to load, print, and save files.
3) Follow lab procedures for software use and checkout.

TERMINOLOGY:

Students will understand these terms as used in AppleWorks:

word processor	spreadsheet	database
desktop	workspace	command line
status line	menu	cursor
disk	OPEN APPLE	RETURN
ESC	file	edit
zoom	insert	delete
format	record	category
find	arrange	select
AND	OR	cell
row	column	value
label	function	formula
report	clipboard	cut
paste		

CONCEPTS AND SKILLS RELATED TO PROGRAM USE

Students will:

1) Use AppleWorks appropriately as a word processor, a database, and as a spreadsheet. Specifically, students will:

   a) Use the word processor to:

      - insert text
      - delete text
      - move text
      - format text
      - save a file
      - print a file

   b) Organize and use information in a database file to:

      - add records to an existing file
      - view single or multiple records
      - change the layout of a file as needed
      - find records on the basis of the information in a specific category
      - sort/arrange data within a specified category
      - select data according to logical rules
      - save a database file
      - prepare a report which contains selected categories of information
      - design and create a new database file

   c) Use a spreadsheet file to:

      - locate specific cells, rows, and columns
      - enter a value or label in a cell of an existing file
      - copy the contents of any cell
      - define a computation by entering a formula
      - ask "What if...?" questions by entering appropriate values
      - save a spreadsheet file
      - prepare a spreadsheet report
      - design and create a spreadsheet file

2) Prepare reports using database, spreadsheet, and word processor information by

   a) Transferring database records, spreadsheet data, or word processor text to the clipboard
   b) Transferring information from the clipboard to a word processor file

3) Use the ClassWorks REFERENCE SHEETS and the AppleWorks REFERENCE MANUAL.

IMPORTANT!!! BEFORE YOU BEGIN...

Be sure to make a backup copy of the ClassWorks STUDENT and TEACHER DISKS. While you are encouraged to modify the lessons, quizzes, and student worksheets, it is recommended that you keep a master copy of the ClassWorks disks in their unmodified form.

LESSON 1

INTRODUCTION TO AppleWorks

This introduction gives students a "map" of AppleWorks territory. Students will become familiar with each of the program tools, learn how to use the program, and become familiar with how the program presents information.

Number of Class Periods: 1-2

Worksheets

A Desktop Full of Help
Let's Experiment
AppleWorks Crossword Puzzle

Student AppleWorks Files

Getting Started (WP)

Reference Sheets

Getting Started

Overhead Transparencies

1 - 11

Objectives

Students will be able to define or explain these terms, concepts and facts.

Terms:

- STARTUP/PROGRAM disk
- data disk
- menu
- status line
- command line
- workspace
- desktop
- return key
- arrow keys
- open APPLE key
- cursor
- delete key
- escape key

Concepts:

- AppleWorks
- database
- file
- word processor
- spreadsheet
- desktop

Facts:

- All AppleWorks program files are on the STARTUP/PROGRAM disk.
- Your personal files are stored on the data disk.
- The cursor marks your location on the screen.
- Keeping any key pressed down causes that key to repeat.

- Your control of program operation is through various menus.
- Menu selections are identified (highlighted) using the arrow keys.
- Pressing the RETURN key is your means of getting the program to continue.
- Your instructions to the program are entered on the command line.
- The ESC(ape) key allows you to back up to the previous stage of program use.
- The point to which ESCaping will return you is indicated on the status line.
- The DELETE key erases the character immediately to the left of the cursor.
- The OPEN APPLE commands allow you to use various program features.
- OPEN APPLE ? provides help.
- OPEN APPLE <#> moves the cursor to different parts of the file in the workspace.
- OPEN APPLE H prints what is on the screen.
- OPEN APPLE Y clears a line.

In addition, students will be able to:

- Checkout software according to lab procedures
- Start up the AppleWorks program

Activity 1.1 - Overview of AppleWorks

Materials:

- transparencies #1 - 11
- overhead projector
- computer and monitor
- copies of "A Desktop Full of Help" for each student (see pp. 11-14 or "Desktop Help" on TEACHER data disk.)

- a copy of the "Getting Started" reference sheet for each student (see pp. 137-138)

Materials are included for a teacher-directed introduction of the three AppleWorks tools. "A Desktop Full of Help" worksheet provides students a framework for note taking and for summarizing the key features of using AppleWorks as you describe and demonstrate its use.

Activity 1.2 - Getting Started

Materials:

- STARTUP/PROGRAM AppleWorks disks for each pair of students
- copies of the "Getting Started" file are on the STUDENT data disk
- copies of "Let's Experiment" for each student (see pp. 15-16 or "Experiment" on TEACHER data disk).

This activity gives students their first experience using AppleWorks and a chance to review the key ideas discussed in your introduction. Students should work in pairs to complete the "Let's Experiment" worksheet.

Teaching Tips:

Open APPLE ? often is overlooked as a source of quick help. Make sure that students are familiar with its use and are aware that the same option is available when using any of the three tools.

Activity 1.3 - Crossword Puzzle

Materials:

- one copy of an "AppleWorks Crossword Puzzle" for each student (see pp. 17-18)

The "AppleWorks Crossword Puzzle" is for students to use in reviewing new terms and procedures.

NAME: _____

DATE: _____

A DESKTOP FULL OF HELP

In the next few lessons you will be introduced to the APPLEWORKS computer program. You will learn how to use it as:

- a word processor to compose and edit text,
- a database to file, search for, and organize information,
- a spreadsheet to perform calculations and solve problems, and
- a 3-in-1 tool to combine information from the word processor, the database, and the spreadsheet to create reports.

This introduction will acquaint you with the terms and procedures you will need to know in order to get started using AppleWorks.

1) As your teacher describes the program to you, match the terms listed below with their meaning.

___ word processor	___ desktop
___ file	___ data disk
___ menu	___ database
___ spreadsheet	___ AppleWorks

a) a tool for managing data that allows you to store, select, arrange, and list information

b) a record-like object for storing the word processor, database, and spreadsheet files you create

c) a list of choices presented to you by the software that allows you to select your next step

d) a tool for organizing numerical information that allows you to do large amounts of arithmetic and to solve "What if...?" problems

e) a tool for editing text information, like letters and reports

f) the portion of the computer's memory where the files with which you are working are stored

g) a computer program that operates as a word processor, database, or spreadsheet

h) information that you use and store together under the same name

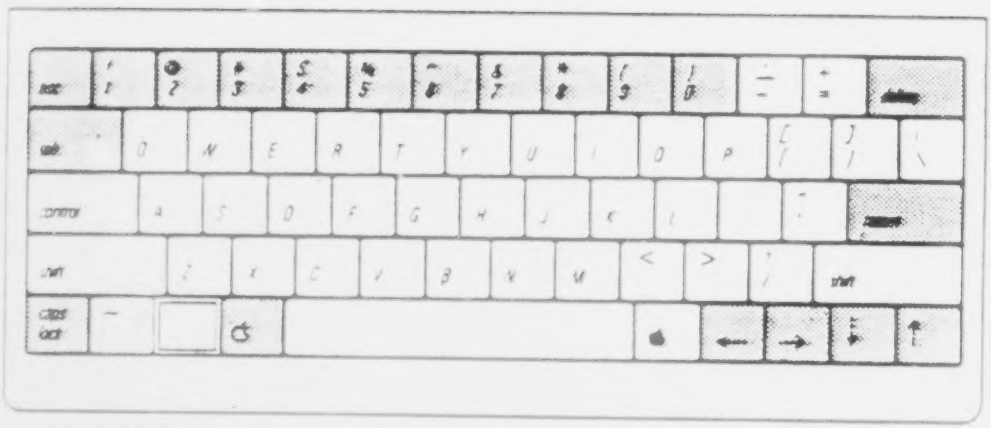
KNOWING THE TERRITORY

You will be able to use APPLEWORKS more easily if you know:

1. your way around the computer keyboard,
2. how information is organized on the screen, and
3. how to use the program's menus.

1) As your teacher describes each part of the keyboard:

a) circle the key(s),
b) draw a line to the label below, and
c) write a brief description.



RETURN

DELETE

ARROWS

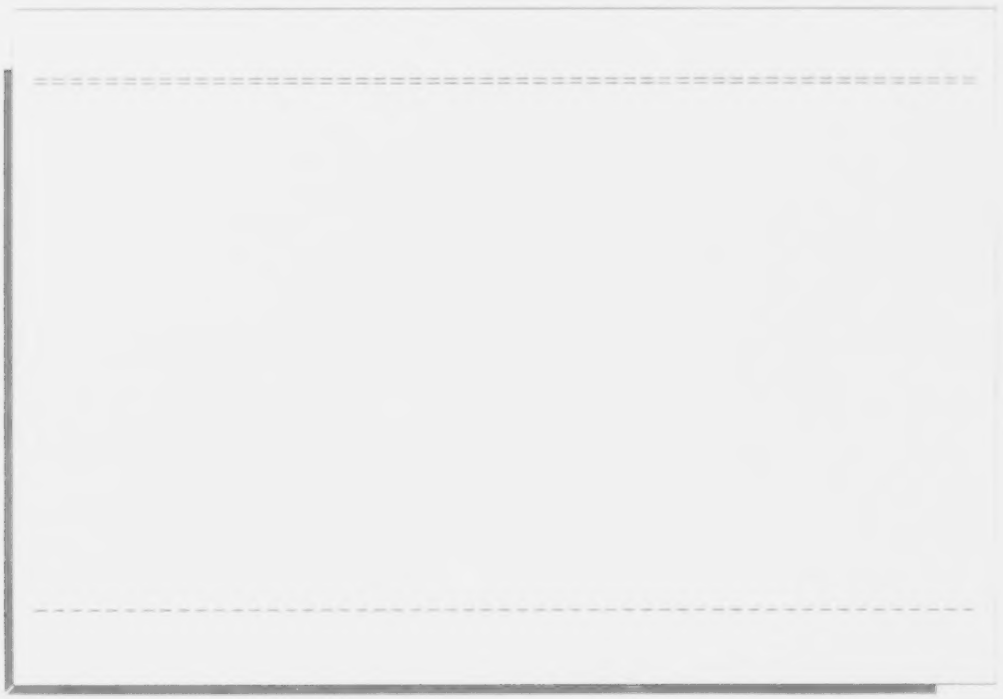
OPEN APPLE

CAPS LOCK

TAB

ESC

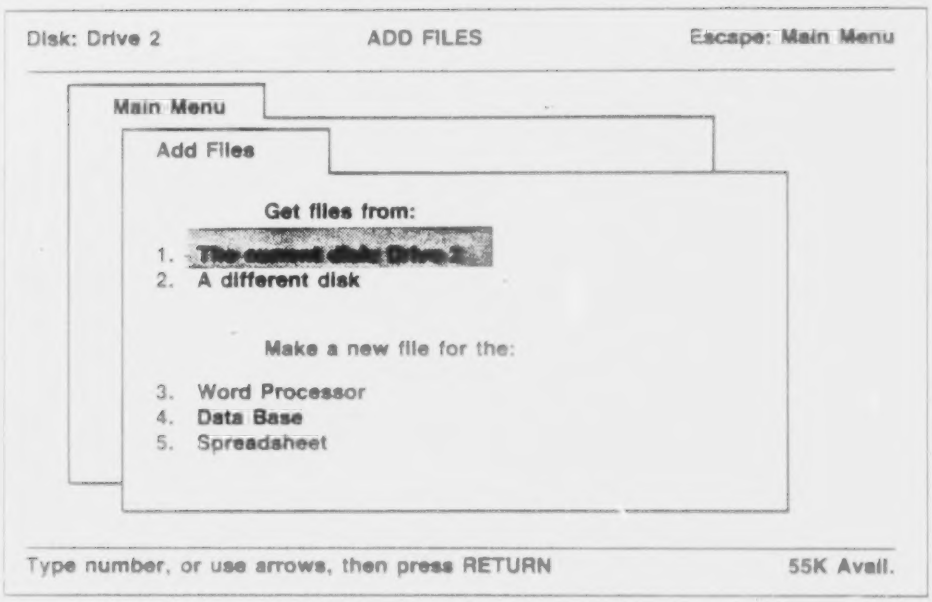
2) The same general format is used to display information in the AppleWorks word processor, the database, and the spreadsheet. Label each section of the screen pictured below and make a note about what happens there as your teacher describes it.



3) AppleWorks is controlled by means of menus, or lists of choices. To use a menu you will highlight your choice from among those listed using the ARROW keys and press the RETURN key to make your selection.

a) Circle each part of the following menu as it is discussed, and

b) write a description below.



b Disk _____

b Title _____

b ESC _____

b Options _____

b Cursor _____

b Prompt _____

b Memory available _____

NAME: _____

DATE: _____

L E T ' S E X P E R I M E N T

1) APPLEWORKS is easy to use once you learn the steps for getting started. These steps are listed on the GETTING STARTED REFERENCE SHEET. Follow along as your teacher describes and demonstrates the process.

2) a) Let's try it. Take a copy of the START/PROGRAM disk and your own data diskette to a computer. Work with a partner and go through the steps for getting started.

b) Load the existing file called GETTING STARTED.

LET'S EXPERIMENT

← → ↑ ↓

Use the ARROW keys to move the cursor around the workspace.

OPEN APPLE #

OPEN APPLE used in combination with any of the numbers on the keyboard moves the cursor part way through the workspace file. If you want to move to the beginning of the file, press down the OPEN APPLE key and type 1. Use OPEN APPLE 9 to move to the end. Try it.

OPEN APPLE Y

Place the cursor under the first letter of the names at the top of the sheet. Hold down the OPEN APPLE key and press Y. You just used OPEN APPLE Y to clear a line of text from the cursor to the end of the line. Type your own names.

OPEN APPLE ?

Hold down the OPEN APPLE key and press ? to get help. All of the OPEN APPLE commands that you can use are listed for you.

ESC

Press ESC to move back to previous mode or screen.

OPEN APPLE H

Try this option only if your computer is connected to a printer. Otherwise you will have to look on with another group.

Use this command any time you want a copy of the information that is on the screen. Turn on your printer and try it.

OPEN APPLE P

Use this command to print the entire file that is in your workspace. You will use it now to get a complete list of the steps for getting started.

Turn on the printer and advance the paper to the top of the next sheet. You can do this by:

—manually advancing the platen (the printer should be turned off) or by

—using the line feed button (the select button must be turned off to use the line feed or form feed options)

Press OPEN APPLE P.

Indicate that you want to print the file from the BEGINNING (the highlighted choice) by pressing the RETURN key.

You will find a label on your printer. Select the option on the menu that matches this label.

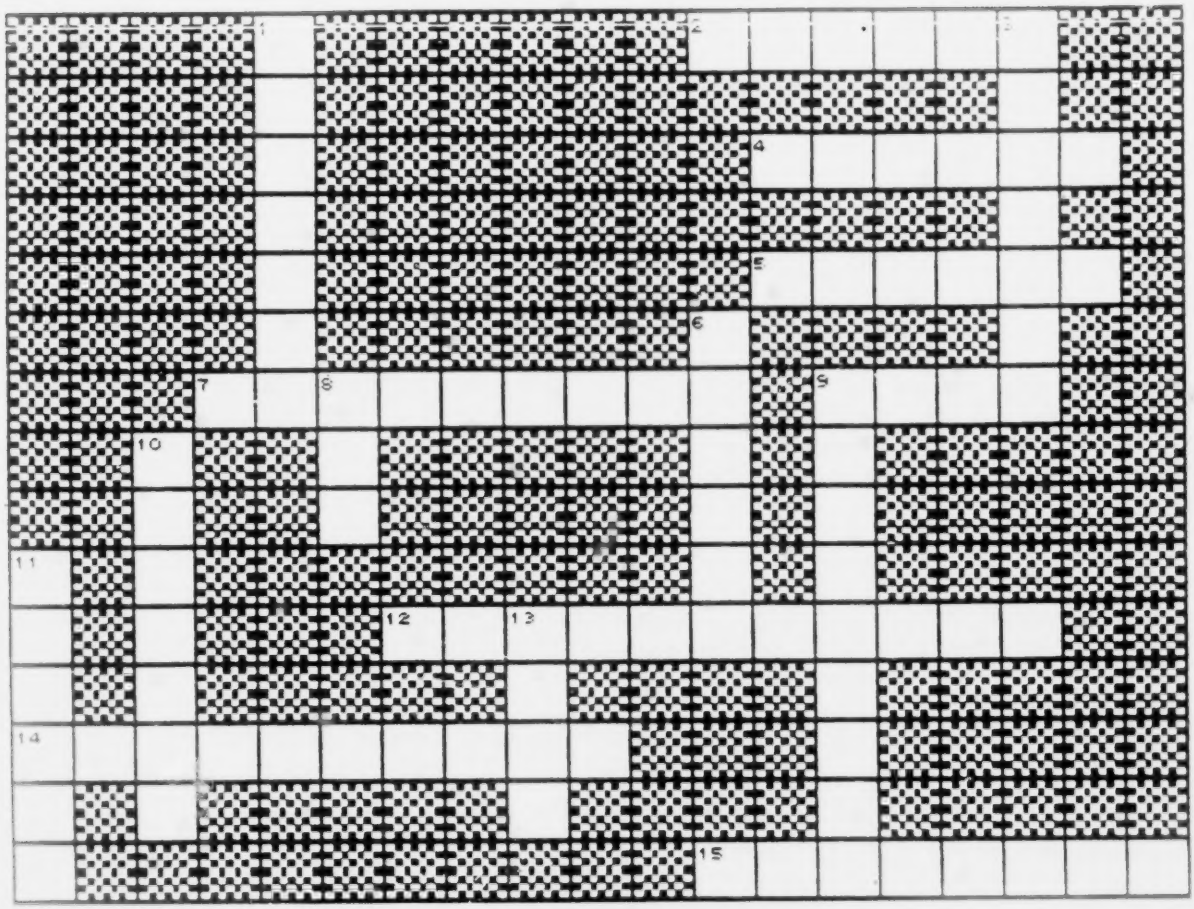
Indicate on the command line how many copies of the file you want prepared and press the RETURN key.

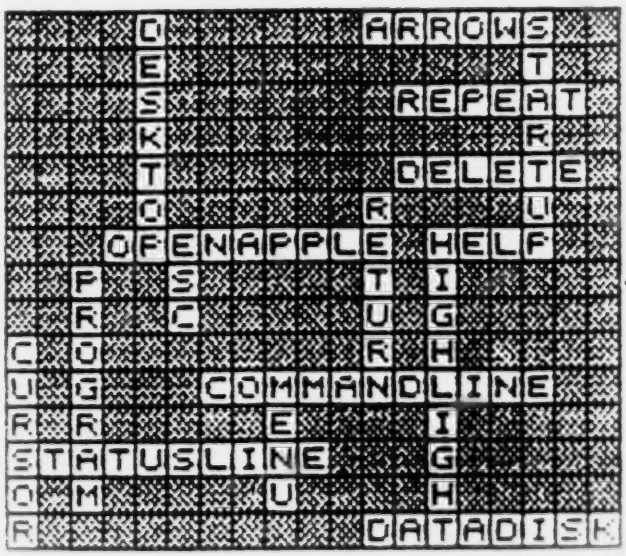
You are through for now. Turn off the computer and return the APPLEWORKS program.

NAME: _____

DATE: _____

APPLEWORKS





NOTE: Cover answers before reproducing.

CROSSWORD PUZZLE

ACROSS CLUES

2) Used to highlight menu options or move the cursor around the screen

4) What will happen when you hold down any key

5) The key used to erase the character to the left of the cursor

7) The key that allows you to call on special AppleWorks features (two words)

9) Available by pressing OPEN APPLE ?

12) The line at the bottom of the AppleWorks screen where directions for the program are given (two words)

14) The portion of the AppleWorks screen that lets you know where you are in the program (two words)

15) Used to store the files of information you create using AppleWorks (two words)

DOWN CLUES

1) The part of the computer's memory that temporarily stores your work

3) The diskette in the disk drive when you first turn on the computer to use AppleWorks

6) Press this key to continue

8) Press this key to back up to the last step

9) Dark-on-light text instead of light-on-dark

10) The disk on which the AppleWorks programs are stored

11) The blinking line you use to locate your position on the screen

13) A list of program options

LESSON 2

AN INTRODUCTION TO WORD PROCESSING SKILLS

This lesson is a follow up to Lesson 1. Students will acquaint themselves with several of the basic word processing features of AppleWorks. The lesson starts with "Oops!", a review exercise in which students type their solutions to problems often encountered in learning to use AppleWorks. Overhead transparencies demonstrate how to insert, move and delete text, and three computer activities provide students with drill and practice in these skills.

Number of Class Periods: 2-3

Worksheets

All on STUDENT disk.
(There is no need to photocopy these worksheets for students)

Student AppleWorks Files

Oops! (WP)
Fairy Tale (WP)
The Hole Truth (WP)
Fairy Tale II
Resume

Reference Sheet

Word Processing

Overhead Transparencies

2, 12 - 20

Objectives

Students will be able to explain or demonstrate the following:

Terms:

- word processor
- edit
- move
- delete
- insert

Facts:

- Begin typing at the cursor to insert new text.
- To edit mistakes, use the ARROW keys to move the cursor immediately to the right of the error, erase the error with the DELETE key, and insert the correction.
- Use the OPEN APPLE M command to move a block of text.
- Use the OPEN APPLE D command to delete a block of text.

- Use the ARROW keys to highlight text that you want to delete or move.
- Use the OPEN APPLE S command to save a file.

Skills:

- using the word processor for composition
- editing errors in their text
- deleting unwanted blocks of text
- moving blocks of text within a document

Activity 2.1 - Review & Introduction to Word Processing

Materials:

- copies of the "Oops..." worksheet (see STUDENT data disk or pp. 23-24) There is no need to photocopy this worksheet for students.

Hands-on is the most effective way to introduce students to the use of all three tools. Have students work in pairs, getting AppleWorks started following the guidelines previously provided. This activity involves a review of several of the procedures discussed in LESSON 1. Instruct students to load the "Oops..." file on their STUDENT data disks and to type solutions to the commonly occurring AppleWorks predicaments they find described in the file.

Activity 2.2 - Discussion & Demonstration of Basic Word Processing Features

Materials:

- overhead projector
- transparencies 2, 12 - 20
- computer and large monitor
- copies of the "Word Processing" reference sheet for each student (see p. 139)

Once acquainted with the way in which the word processor operates, students are ready for more detailed instruction. Use overhead transparencies 12-20 as the basis for explaining the procedures for entering, deleting, and moving text as you demonstrate the process on the computer. Students can follow along with your

explanation on their own copies of the "Word Processing" reference sheet.

If you are using AppleWorks 3.0 you will also want to introduce students to the use of the spell checker at this time. OPEN APPLE V provides access to this new feature of the program and students can use it to scan all or part of their documents for spelling errors.

Activity 2.3 - Word Processing Drill & Practice

Materials:

- "A Fractured Fairy Tale"
  (see FAIRY TALE on STUDENT disk or pp. 25-26)
- "The Hole Truth"
  (see STUDENT data disk or pp. 27-28)
- "Another Fractured Fairy Tale"
  (see FAIRY TALE II on STUDENT disk or pp. 29-30)
- "A Resume"
  (see RESUME on STUDENT data disk or pp. 31-32)

Note: There is no need to photocopy these worksheets for students.

Four files are included on the STUDENT data disk for students to use in gaining experience editing text. Instruct students to load the appropriate file and follow the instructions provided to complete the assignment. Younger students may need to work through all four files to become comfortable in deleting, inserting, and moving text. You may want to save one of the activities for review with other students.

The "fractured" fairy tales have an appeal to students of all ages (especially adults). Encourage creativity in completing the stories. Grading papers is far more enjoyable when the work is entertaining.

The Resume activity provides additional word processing practice around an activity many students will find helpful in preparing for after school and summer jobs. The format of the sheet is simple. You may want to encourage students to modify it or to include additional fields of information.

NAME: _____

DATE: _____

OOPS!...A PROBLEM

HANDY REFERENCE SHEETS.....WORD PROCESSING

KEYS TO REMEMBER:

ARROWS.....move the cursor
DELETE..... erase the character to the cursor's left
OPEN APPLE ?.....help
OPEN APPLE P.....to print your work

Imagine that a friend has just encountered these problems getting started with APPLEWORKS. Move the cursor to the space provided beneath each problem and type your suggestions.

1) "How do I get the cursor down under (1)?"

2) "I put the PROGRAM disk in drive #1 and turned on the computer and the monitor, but the program won't start."

3) "OK - so I put the PROGRAM disk in like it said and typed the date and the computer just sits there. What's wrong?"

4) "I made the wrong choice on the last menu. How do I get back?"

5) "I just typed 'Priss the ESC kry_'. How do I fix it?"

6) "What's this 'Escape: Main Menu' stuff on the status line?"

Before you save and print your work, use the arrow keys and go back through your answers and check for any errors. Make any necessary corrections.

Press OPEN APPLE S to save your file. Print a copy of your paper to turn in.

NAME: _____

DATE: _____

A FRACTURED FAIRY TALE

HANDY REFERENCE SHEETS.....WORD PROCESSING

KEYS TO REMEMBER

ARROWS.....move the cursor
DELETE..... erase the character to the cursor's lett
OPEN APPLE M.....move text
OPEN APPLE D.....delete text

The paragraph below begins to tell a familiar story. That is, when the spelling and grammar errors are corrected, when the extra sentences are deleted, and when the remaining sentences are moved into the right order, you will have the start of a familiar story.

Correct any mistakes in each sentence and then use OPEN APPLE M and OPEN APPLE D to move and delete the sentences as needed to organize the plot. Your finished work should be a paragraph with two spaces following the end of each sentence.

Jake and the Beanstalk

Not far from London there once livved a widow and her son Jack. With tears in her eyes tlie poor woman tolded Jack to take the cow to the market and get tne best price he could for it. Then a day came when they had to sold their cow. "Oh, grandmother, what big ears you have!" cried Little Red Riding Hood. They were so poor and they often didn't have enough to eat and as Jack was a lazy boy who neffer liked to work, matters grew worse and worse for his poor mother."Rapunzel, Rapunzel, Let down your golden hair". "Yes," answered Jack, wandering how the stranger knew his name. "I will buy the cow from you in in exchange for these magic beans." said the man. He had not gone far when he met a man who asked him, "Are you taking your cow to markey, Jack?" "But I warn you," said the fairy godmother, "that you must leave the ball before midnight." So Jack, leading the cow, set off.

Surely you know how the story continues, but inasmuch as this is a fractured fairy tale, create and add your own ending.

Carefully check for and correct any errors you find.

When you are done, SAVE the story on your data disk and PRINT a copy to turn in.

NAME: _____

DATE: _____

THE HOLE TRUTH

HANDY REFERENCE SHEETS.....WORD PROCESSING

KEYS TO REMEMBER

ARROWS.....position the cursor
DELETE.....erases character to the left of the cursor
OPEN APPLE C.....copy text

Copying text is one of the most commonly used word processing operations. Practice makes perfect. Try this exercise.

The table below consists of examples of different parts of speech. Several words have already been entered in each category. Fill out the table with your own examples.

	NOUN/PRONOUN	VERB	ADJECTIVE	ADVERB
1)	he	run	gross	swiftly
2)	nerd	smile	violet	loudly
3)	elf	flung	angry	lovingly
4)				
5)				
6)				
7)				
8)				

The following letter contains holes. Decide what part of speech belongs in each hole and then copy words from the table to fill the gaps. Do not make-up new words as you fill in the letter. Use the ones in the table. Make any necessary changes in form such as verb tense or changes from singular to plural. Delete the _____'s.

September 1, 1986

My dear principal,

As you know it's progress report time. I thought you would like to know how my teacher is doing. _____ is the _____ teacher is the entire school. Why just last week I turned in a paper one day late and teacher said _____, "How _____!", as the paper _____ the desk.

And the way _____ treats the rest of the _____ in class. I'll never forget when teacher _____ all of us in the closet. I'm still _____ about it.

Teacher is so _____. Every time I ask a question, I get the same _____ response, "That is a really _____ question."

I have to tell you about the _____, too. It was _____ and it sang _____. It was probably the _____ time we've had in class all year.

All-in-all, I would say that teacher's progress is _____.

Your friend,

P.S.

Now that you have had some fun at your teacher's expense, add a P.S. and let him/her know how you really like the class.

Save the letter on your disk and print a copy to turn in.

NAME: _____

DATE: _____

ANOTHER FRACTURED FAIRY TALE

HANDY REFERENCE SHEETS.....WORD PROCESSING

KEYS TO REMEMBER

ARROWS.....position the cursor
DELETE .....deletes character to the left of the cursor
OPEN APPLE M.....move text
OPEN APPLE D.....delete text

Poor Red Riding Hood. Someone confused her story. Some of it does not even belong. Organize it for her and correct the errors in spelling and punctuation.

LITTLE RED RIDING HOOD

Once upon a time there was a sweat little maiden who was loved by all who knew her, but she was especially deer to her grandmother. "Where to so early, Red Riding Hood?" "I'm off to see the wizard," Dorothy replied. The wolf thunk, "This tender little creature will be a plump morsel! She will be nicer than the old woman. Her grandmother lived aweigh in the wood, a good half hour from the village. "What have you got in your basket?" "A good quarter of an hour into the woods neer a hedge of nut trees," said Red Riding Hood. Take this cake and bottle of wine to grandmother? "Good morning, Wolf," she answered. She is week and ill and they will do her good. Go quickly, before it gets hot." "Good morning, Red Riding Hood," he said. "Cake and whine. We baked yesterday, so I'm taking a cake to grandfather." It was so becoming and she liked it so much that she would never wear anything else, and so she got the name of Read Riding Hood. She wants something to make her well. "One day her mother said to her, "Come here, Red Riding Hood! When she got to the wood she met a wolf, but Red Riding Hoof did not know what a wicked animal he was, so she was not a bit afraid of him. Once she gave her a little red cloak. "To grandmother's." "Where does you grandmother

live, Red Riding Hood?" "Second turning to the right, and then keep on til morning," said Peter. "I must be cunning and snap them both up."

Grimm's fairy tales have been changed a great deal, so once more will not hurt. Write your own ending to the story.

Save the completed story on your disk and print a copy to turn in.

NAME: _____ DATE: _____

A RESUME

HANDY REFERENCE SHEETS.....WORD PROCESSING

KEYS TO REMEMBER

ARROWS.....move the cursor
DELETE.....erase the characters to the cursor's left
OPEN APPLE D.....delete text
OPEN APPLE M.....move text

Prospective employers need to know about you, especially about your past work experience. A resume is commonly used for this purpose. Complete the resume outlined below. You may want rearrange information, delete a portion, add additional sections, or change the format to best suit your needs.

When you are ready to print your work, position the cursor anywhere on the resume and print "From this page."

RESUME

Name:

Address: Phone Number:

Date of Birth:

School: Year:

Work Experience:

Job Reference

Hobbies/Interests:

LESSON 3

FORMATTING WORD PROCESSOR FILES FOR THE PRINTER

Students can print their AppleWorks word processor files in a variety of formats. For example, they can prepare double-spaced, full-page reports with text justified both left and right, single-spaced columns suitable for pasting-up in a newspaper or customized cards and letters. This lesson provides practice in adjusting margins and column width, centering, setting spacing and justifying text. Experimenting with the other options available through the OPEN APPLE O (for options) command is also encouraged.

The proof of a student's ability to use the word processor is ultimately in its practical use. Thus the final word processing project requires students to use the program to prepare a paper for another class.

Number of Class Periods: 3-4

Worksheets	**Student AppleWorks Files**
Printing Practice	Sports Report
Reference Sheet	**Overhead Transparencies**
Word Processor Printing Options	21 - 23

Objectives

Students will be able to explain or demonstrate the following.

Concepts:

- format
- justify
- margin

Facts:

- There are a large number of options available for formatting printed text available through the OPEN APPLE O command.
- Zooming in and out on a text file using OPEN APPLE Z allows you to see the printing options that are set.

- Printer options can be set at any point in a word processor file.

Students will demonstrate skill at using the word processor to prepare a paper and print it in a specified format.

Activity 3.1 - Discussion and Demonstration of Formatting Text

Materials:

- overhead projector
- transparencies 21 - 23
- computer & monitor
- copies of the "Word Processor Printing Options" reference sheet for each student (see pp. 141-142)

Formatting file for printing is accomplished using OPEN APPLE O (for options). Although, the menus differ for each of the three tools, the same option is used to prepare word processor, database, and spreadsheet reports.

Use overhead transparencies #21-23 as you demonstrate the procedures for preparing a word processor report. Students can follow your discussion on copies of the "Word Processor Printing Options" reference sheet as you work through the examples.

Teaching Tips:

The printing options menu for the word processor can be confusing. Point out the most commonly used options --the last two in the first column and those in the second column.

Activity 3.2 - Printing Practice

Materials:

- copies of the "Printing Practice" worksheet for each student (see p. 37 or PRINT PRACTICE on TEACHER data disk)

The "Sports Report" file on the STUDENT data disk is not formatted. The "Printing Practice" worksheet requires that students prepare printed copies of the "Sports Report" in several different arrangements including the report and newspaper formats described on the reference sheet.

Activity 3.3 - Word Processing Project

Assign students the task of preparing a word processed paper for another class. Give several days advance notice so that students can make appropriate plans. Depending on the size of the staff with which you work, you may want to make this a joint assignment with other teachers.

Activity 3.4 - Word Processing Quiz

Materials:

- QUIZ1 file on the TEACHER data disk (see pp. 153-157 for key)

QUIZ1 on the TEACHER data disk contains questions about the use of AppleWorks in general and about the word processor specifically. Load the file into the word processor and delete the questions you do not want to use. Number the remaining questions, adjust the pagination (OPEN APPLE O, NP option), change the name of the file (OPEN APPLE N), and save a copy on your disk. If your printer allows it, print a copy of the quiz directly on a ditto master in order to prepare student copies.

NAME: _____

DATE: _____

PRINTING PRACTICE

HANDY REFERENCE SHEETS.....WORD PROCESSING
WORD PROCESSOR PRINTING OPTIONS

KEYS TO REMEMBER

OPEN APPLE O.....set the printing options
OPEN APPLE Z.....zoom in to see the printing options
OPEN APPLE P.....to print your work
OPEN APPLE D.....delete text

---

1) Load the SPORTS REPORT file from your data disk.

2) Use OPEN APPLE Z to **zoom** in on the formatting options that are set in the text. You can **zoom** back out to the original version by pressing OPEN APPLE Z again.

3) Print the file first as a report using the format given on the PRINTER OPTIONS REFERENCE SHEET.

   a) Zoom in on the printer options and move the cursor to the top of the text.

   b) Use OPEN APPLE O to enter the complete list of options given on the reference sheet.

   c) Print your report.

4) Now print the text in a three inch newspaper column using the other set of options on the reference sheet.

   a) Move to the top of the text and zoom in on the printer options as you did before.

   b) Use OPEN APPLE D to delete unwanted options.

   c) Enter the new options using OPEN APPLE O.

   d) Print your sports column.

5) Be creative and print your own version of the text. Remember that you can insert new printer options at any point by simply moving the cursor and using the OPEN APPLE O options.

LESSON 4

AN INTRODUCTION TO DATABASE ACTIVITIES

Students typically come to class with a good sense of what a database is - whether they know it or not. A file cabinet, a rolodex file, and a date book, to name a few, are all common, everyday devices that make organizing and retrieving information easier. An electronic file provides the same functions and possibilities, but in a dynamic fashion. This introduction is organized to provide students with the experience of entering data into an existing file and learning how to use the AppleWorks database to manipulate it, and at the same time learning to appreciate the differences between the dynamic capabilities of an electronic database as opposed to the static organization of its nonelectronic cousins.

Number of Class Periods: 1-2

Worksheets	**Student AppleWorks Files**
Database Activities	Class DB (DB)
Reference Sheet	**Overhead Transparencies**
Database Operations	3, 24 - 34

Objectives

Students will be able to explain or demonstrate the following.

Concepts:

- file
- record
- category
- find
- arrange
- select

Facts:

- Database files are divided into individual records.
- Records within a database file are organized by categories.
- You can find specific information within a database file using OPEN APPLE F.
- It is possible to arrange, or sort, all or part of the records within a database file using OPEN APPLE A.

- You can select certain records according to logical rules that you define using OPEN APPLE R.

- You can change the layout of a database file using OPEN APPLE L.

Students will demonstrate skill at using the database to:

- find records which contain specific information

- arrange records within a database order

- select records on the basis of logical rules

Activity 4.1 - Getting Started - Entering Data into a Class File

Materials:

- copies of the "CLASS DB" file on STUDENT disk

Load a copy of the CLASS DB file into each of the computers in the classroom and make them ready for the addition of new records. Direct students to enter their own data into each copy of the file. Save each copy of the file after the last entries are made so that they will be available for student use later. A sample record of CLASS DB appears below:

LAST NAME: Kearns
FIRST NAME: Alice
SEX: F
DATE OF BIRTH: Dec 12 71
FAVORITE CLASS: Social Studies
FAVORITE HOBBY: Swimming

Activity 4.2 - Discussion/Demonstration of Database Use

Materials:

- transparencies 3, 24-34
- overhead projector
- computer & monitor
- copies of the "Database Operations" reference sheet for each student (see pp. 143-144)

Once each student has entered data into the CLASS DB file, brainstorm ways in which the information in the file

can be used and questions that can be answered. For example:

- Find out about a particular person.
- Identify classmates who share the same hobby.
- Identify all of the students who like the same class.
- Find out who is the oldest.

Use the list as a basis for discussing and demonstrating database operation. Transparencies 3 and 24-34 are designed to help you discuss finding, arranging, and selecting data. Students can follow your demonstration of procedures on the "Database Operations" reference sheet.

Activity 4.3 - Database Practice

Materials:

- copies of the "CLASS DB" on the STUDENT disk
- copies of the "Database Activities" worksheet for each student from the TEACHER data disk (see pp.43-44 or DB ACTIVITIES on TEACHER disk)

The "Database Activities" worksheet provides students with practice finding, organizing, and selecting data from the CLASS DB file they just completed. While the emphasis at this point is on the mechanics of using the database, students should also begin to consider how their questions can best be addressed using the functions of the program. Begin using the focusing and paraphrasing techniques suggested in Lesson 5.

NAME: _____

DATE: _____

DATABASE ACTIVITIES

HANDY REFERENCE SHEETS.....DATABASE OPERATIONS

KEYS TO REMEMBER

OPEN APPLE ?.....help
OPEN APPLE F.....find particular information
OPEN APPLE A.....arrange (sort) the data
OPEN APPLE R.....write a rule to select a set of information

A **database** is nothing more than an organized collection of information. The CLASS DB file is a computerized example. Commonly used databases include an address book, a date book, a binder or peechee with your class notes, and your teacher's gradebook. There are several differences between these everyday examples and an electronic database, though. The most important is that the data in an electronic file is dynamic--it moves. Have you ever tried to reorganize the contents of the phone book, maybe by street address or by first names? Or maybe you have tried to locate all of the items in your favorite mail order catalog that cost less than $25.00. A well organized electronic database will allow you to easily find a specific piece of information. You will be able to conveniently rearrange the information to suit your needs. And you will be able to select a particular part of the information when you need it.

Try these exercises with the CLASS DB file.

1) Find your record and the record of your best friend in class.

2) Find all of the individuals whose favorite class is math. Write their names alphabetically.

3) Rearrange all of the records by date of birth from youngest to oldest..

4) Identify all of the females whose favorite hobby is swimming. Write their names.

5) What is the favorite hobby of individuals in the file?

6) Write the names of all of the individuals whose favorite class is either Computers or PE.

7) Identify all of the males who were born from Jan 1 75 to Dec 31 78. Write their names.

8) Who is the oldest female whose favorite class is computers?

9) What is the favorite hobby of girls who are younger than 16?

10) Make-up three (3) questions of your own about the information in the table and answer them.

LESSON 5

DATABASE PRACTICE

A database is potentially a valuable resource because of the ease with which students can extract information related to interesting questions and then use that information to bring their own meaning to the content. The ability to use a database in this fashion requires practice, though; particularly in the task of turning questions into rules for selecting information and then organizing the information appropriately. The worksheets and computer activities in this lesson focus on this skill.

Number of Class Periods: 3-4

Worksheets (On Teacher Disk)	**Student AppleWorks Files**
Selection Rules	Olympics (DB)
My Town - 1860	My Town (DB)
Pumping Oxygen	Aerobics (DB)
Car Comparison	Cars (DB)

Reference Sheet	**Overhead Transparencies**
Database Operations	24 - 34

Objectives

Students will develop additional skill at:

- translating questions into database selection rules
- finding information in a database
- arranging database records

Activity 5.1 - Getting Started

Materials:

- copies of the "Selection Rules" worksheet for each student (see pp. 51-54 or TEACHER disk)
- transparencies 29-34
- overhead projector
- OLYMPICS database file on the STUDENT data disk
- computer & monitor

Introduce this lesson by reviewing the procedures for forming selection rules. An example from the previous computer activity is included on the front of the "Selection Rules" worksheet. An additional example refers to the OLYMPICS database file. Use transparency 34 to trace through the development of your examples.

Have students work with a partner at their desks and develop selection rules for each of the questions on the sheet. Solutions may vary. Discuss differences with the whole class, going through the selection process manually to check results.

Once you are comfortable with your students' ability to form rules for this assignment, have them work with their partner to check their work at the computer using the OLYMPICS database file.

Follow-up this activity by having students share their own questions. Have them enter and display their solutions for class discussion using a large monitor. Compare and contrast with solutions that other students suggest.

A sample record of OLYMPICS appears below:

```
================================================================
        COMPETITION: BASKETBALL      EVENT: WOMEN

GOLD: USA            SILVER: YUGOSLAVIA        BRONZE: USSR
COUNTRY1: USA        COUNTRY2: YUGOSLAVIA      COUNTRY3: USSR

                   WINNING MARK:
----------------------------------------------------------------
```

Source of Data:

The World Almanac & Book of Facts: 1988. New York: Ballantine Books, pp. 824-835.

Activity 5.2 - Forming Selection Rules

Materials:

- copies of the MY TOWN, PUMPING OXYGEN, and CAR COMPARISON worksheets for each student (see pp. 55-66 or TEACHER disk)
- MY TOWN, AEROBICS, and CARS database files on the STUDENT data disk

Becoming skilled at creating search strategies is difficult. Two teaching techniques are particularly helpful in shaping students thinking: focusing and paraphrasing. For example, in reference to the data in the MY TOWN file, the teacher is asked a broad question and tries to focus the student's thinking:

Student: "The question asks how residents in the community felt about the Civil War. How can you tell?"

Teacher: "Can you tell me what categories of information might be related? Is their age important? Or where they were born?"

Paraphrasing student statements and questions so that emphasis is placed on the necessary logical connectors is also a good technique:

Student: "I wonder what part of the adults in the census came from the midwest. There sure seem to be a lot."

Teacher: "That's a good question. You want to identify people who are adult AND come from Ohio OR Indiana OR Illinois OR Kentucky."

Transparency 34 provides a convenient way of reviewing the process of rule creation once the questions are properly posed.

In addition to learning how to form search strategies, students need to understand that their definition of terms may affect results. Who, for example, are "adults" in the question raised above? A problem like this should be solved within the context of the historical setting in which the data was drawn and not based on uninformed student opinion. Students should examine the age at which men established their own occupations and their own households and the age at which women became mothers. Not only will the term be more accurately defined, but students will gain a better historical perspective.

Three sets of worksheets and database files are included to provide students with additional practice in forming search strategies: "My Town - 1860," "Pumping Oxygen," and "Car Comparison." Additionally, each assignment suggest ways in which the database can be used in other areas of the curriculum (i.e., Health/PE, Social Studies, Personal Finance). They only begin to scratch the surface, though. The AEROBICS database file could easily be expanded to allow students to log their activities on a week-to-week basis and to record such data as heart and respiratory rates. For social studies teachers a complete unit on local history might also include:

- written accounts of early settlers including letters, newspaper articles, maps, and histories
- photographs

- additional records from sources such as churches and local government

- oral history interviews with older members of the community

The natural affinity between teenagers and cars makes the Car Comparison activity particularly exciting and because the file includes information on insurance ratings and maintenance costs, eye opening as well. The CARS database file includes only 1989 model cars. Students may want to add additional cars to the file, particularly used cars to both build the file and to gain practice in the research that is commonly associated with building a database file.

Do not be surprised when you are approached by colleagues who have seen your students' work and have ideas of their own about possible database applications. All they need in many cases is a glimpse of the possible.

Sample records of MY TOWN, AEROBICS, and CARS (in that order) appear below:

NAME: Blanding, Ivan FAMILY NUMBER: 6
AGE: 26 SEX: M

PROFESSION: Merchant

REAL ESTATE $: 400 PERSONAL PROPERTY $: 2000

BIRTHPLACE: Penn.

HEAD OF HOUSEHOLD: Blanding, Ivan

Sample record from MY TOWN.

Source of data:

1860 Federal Census of Lane County, Oregon.
Eugene City Precinct, Eugene City Post Office.

EXERCISE: Swimming

MILES/YARDS: 800 MINUTES: 20 GAMES/HOLES/SETS:

POINTS: 5.75

Sample record from AEROBICS.

Source of Data:

1860 Federal Census of Lane County, Oregon.
Eugene City Precinct, Eugene City Post Office.

Manufacturer: Mercedes Benz	Model: 300CE Year: 1989
Body Type: 2dr	Suggested Price: 53880
Engine Size: 3.0	Crash Test Rating: -
MPG: -	Insurance Rating: discount
Horsepower: 117	Maintenance Costs: high
	Basic Warranty: 48/50,000
Est Resale Value: 51%	Complaint Index: -

Sample record from CARS.

Sources of Data:

"1989 Car Shopping Guide" Changing Times. December, 1988, pp.28-57.

Gillis, Jack. The Car Book: 1989 Models. New York: Harper & Row, 1988.

NAME: _____

DATE: _____

SELECTION RULES

HANDY REFERENCE SHEETS.....DATABASE OPERATIONS

KEYS TO REMEMBER

OPEN APPLE ?.....help
OPEN APPLE F.....find particular information
OPEN APPLE A.....arrange (sort) the data
OPEN APPLE R.....write a rule to select a set of information

In your last activity on the computer you had some practice selecting records from a database according to rules that you defined. For example, to select the records of all of the females in the CLASS DB file you had to:

IDENTIFY A CATEGORY	IDENTIFY A RELATION	ENTER THE COMPARISON INFO
NAME	**equals**	**F**
SEX	is greater than	
DATE OF BIRTH	is less than	
FAVORITE ANIMAL	is not equal to	
FAVORITE FOOD	is blank	
	is not blank	
	begins with	
	ends with	
	does not contain	
	does not begin with	
	does not end with	

TO CREATE THE SELECTION RULE

selection: **SEX equals F**

AND PRESS ESC
TO SEE THE ENTRIES
THAT SATISFIED THE RULE

You could continue the process by:

MODIFYING THE RULE WITH

and
or
through

and repeating the previous steps to find, for example, all females whose favorite class is math.

selection: SEX equals F
and FAVORITE CLASS equals MATH

Using selection rules is the most powerful way of getting information from an APPLEWORKS database file. For practice, imagine that you have a database that contains records about the events of the 1988 Summer Olympics.

Each record has these categories	You can use these relations	And you can expand your rules using
COMPETITION	equals	and
EVENT	is greater than	or
GOLD	is less than	through
COUNTRY1	is not equal to	
SILVER	is blank	
COUNTRY2	is not blank	
BRONZE	contains	
COUNTRY3	begins with	
WINNING MARK	ends with	
	does not contain	
	does not begin with	
	does not end with	

Write selection rules like the one in the following example that will supply you with the information you need to answer these questions.

EXAMPLE: What events did the USA win in boxing?

selection: COMPETITION equals BOXING
and COUNTRY1 equals USA

1) What Olympic event did Yun of China win?

selection:

2) One person won both the men's platform diving AND the men's springboard diving in the 1988 Olympics. Who was he?

selection:

3) In what events was the winning mark an Olympic record?

HINT: All marks that were Olympic records end with an asterick (*).

selection:

4) Did more men or more women set Olympic records in winning their events?

SUGGESTION: Use the fact that the event names contain a reference to sex.

selection:

5) Do the Romanians seem to be strong in any of the competitions in particular (that is - was Romania COUNTRY1 OR COUNTRY2 OR COUNTRY3 in one or several of the competitions)?

SUGGESTION: Once you have selected the competitions in which Romanians were medalists, arrange them alphabetically.

selection:

6) What country or countries in the Olympics had the strongest freestyle wrestling team(s)?

SUGGESTION: Once you have selected all of the freestyle wrestling events, you may want to reorganize the categories on the screen so you can see COUNTRY1, COUNTRY2, AND COUNTRY3 and then to arrange the records alphabetically for each of these categories.

selection:

7) Is it true that the USA was not particularly strong in the Olympic team competitions?

selection:

8) Given the categories of information listed above, write three of your own questions about the Olympics, write selection rules for each question, and give your answers.

NAME: _____ DATE: _____

MY TOWN - 1860

HANDY REFERENCE SHEETS.....DATABASE

KEYS TO REMEMBER

OPEN APPLE F.....find a particular piece of information
OPEN APPLE R.....write a rule to select a set of information
OPEN APPLE A.....arrange information
OPEN APPLE Z.....zoom in or out on records

My town is Eugene, Oregon, located at the southern end of the Willamette Valley. In 1860 Oregon had only been a state for one year, but it was the destination of thousands of settlers who each year journeyed west along the Oregon Trail in search of new lives, new land, and new opportunities.

Why is MY TOWN - 1860 important? Each of our communities, your town included, was and is related to the events of our nation and the world at large. In the case of Eugene in 1860, it was part of the largest westward migration in our history at a time in which the country was being divided by civil war. These events are reflected in the people who made-up the community. By studying the population of Eugene in 1860 we can gain a clearer sense of who we were and what we were about at a significant time in our country's history.

The United States constitution requires that a federal census be taken every ten years. The database file you are about to use is a sample from the 1860 census of Eugene. It represents about 1/4 of the families who lived in the community. The information that was recorded in the census is shown in the record of one family listed below:

NAME	AGE	SEX	PROFESSION	REAL ESTATE $	PERSONAL PROPERTY $	BIRTH-PLACE
Crabtree, Zimri	40	M	Farmer	2500	1300	Ky.
Crabtree, Mary J.	38	F	Housewife			Ky.
Crabtree, Lucile	19	F				Mo.
Crabtree, Sarah E.	17	F				Mo.
Crabtree, George W.	9	M				Mo.
Crabtree, Mary A.	8	F				Mo.
Crabtree, Clara A.	5	F				Oreg.
Crabtree, James B.	3	M				Oreg.
Crabtree, Stephen R.	1	M				Oreg.

1) In many ways the Crabtrees were typical of Oregon settlers. Use the attached map and describe what you know about their migration to Eugene.

2) Load the MY TOWN database file. Zoom in (Open APPLE Z) on one of the records. Notice that in addition to the categories of information shown above, there are two additional categories: FAMILY NUMBER and HEAD OF HOUSEHOLD. The census was taken house to house, neighbor to neighbor, and recorded on paper grouped by household. The family number lets you know who lives next to whom. Since the database allows you to rearrange the information, the HEAD OF HOUSEHOLD category was added so that you can select households as a group.

Use Open APPLE R and write a selection rule to select all of the individuals in which:

HEAD OF HOUSEHOLD equals Crabtree, Zimri

3) The problems below require that you use skill and creativity to manipulate the data so that you may better understand the community and its relation to Oregon's and the nation's history. Select three of the following questions for study. Use the database and any other sources of information you find necessary. Write a summary describing your conclusions.

a) How typical of other settlers in Eugene was the Crabtrees' migration to Oregon?

b) Many of the settlers in Eugene were not only new to Oregon, but new to the United States as well. Who were these people and what was their contribution to the community?

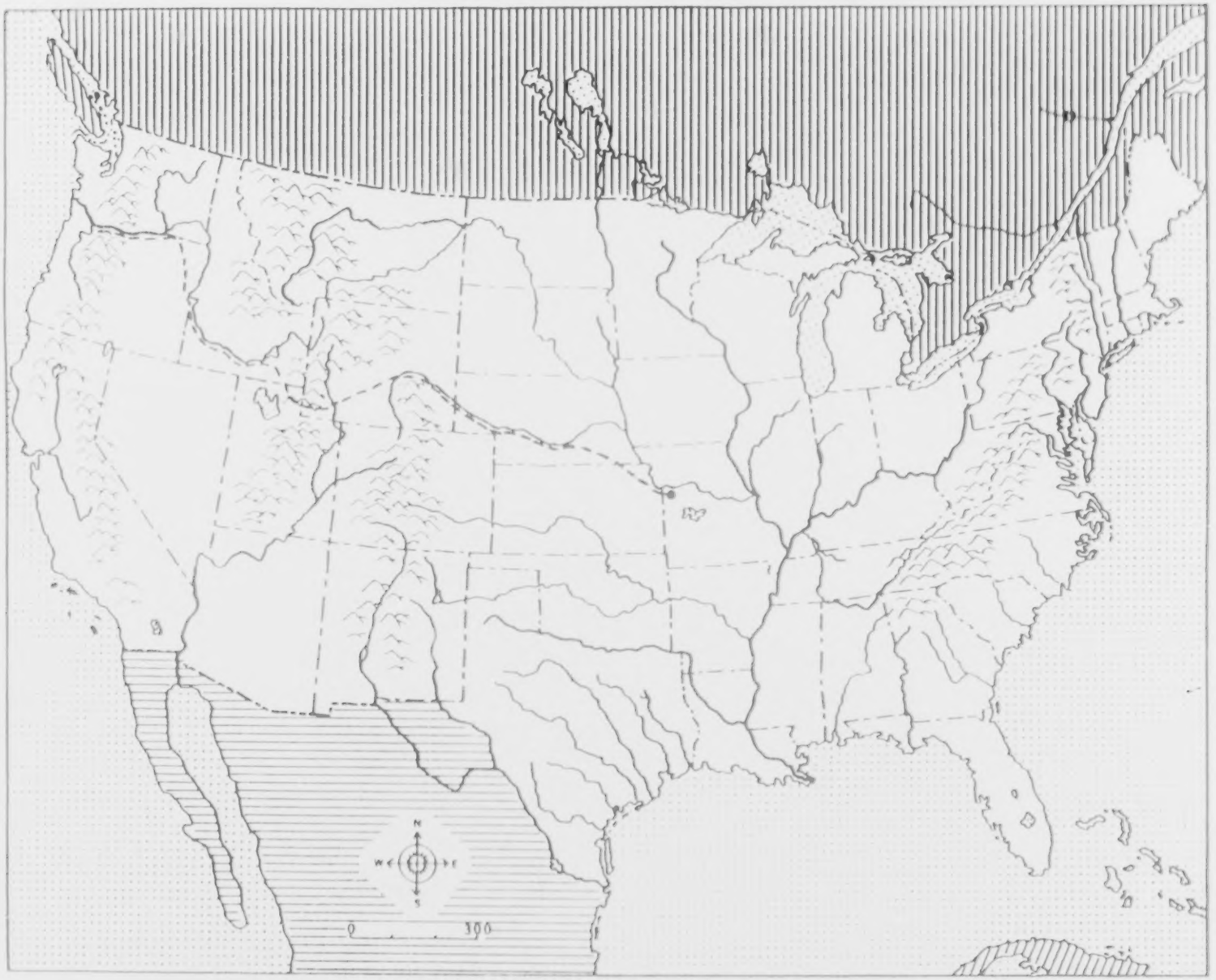
c) What was the role of women in the community?

d) How was real estate and personal wealth distributed within the community? Is there a relationship between wealth and occupation and/or place of birth?

e) How do you suppose the residents of Eugene felt about the Civil War?

4) In working with the database you have looked at many of the records and may have formed some hypotheses or raised some questions of your own. Write two (2) hypotheses or questions related to information in the file and use the database to test or answer them.

OREGON TRAIL



ClassWorks Worksheet 58

NAME: _____

DATE: _____

PUMPING OXYGEN

HANDY REFERENCE SHEETS.....DATABASE

KEYS TO REMEMBER

OPEN APPLE F.....find a particular piece of information
OPEN APPLE R.....write a rule to select a set of information
OPEN APPLE A.....arrange information
OPEN APPLE Z.....zoom in or out on records

Aerobics is a form of exercise that improves the ability of the heart and lungs to bring oxygen to the body. The exercise can take many forms: running, walking, swimming, rowing, and many other activities. What is important is that the heart and lungs work at rates well beyond normal for brief periods of time. Depending on your age, level of aerobic fitness, and the amount of time spent exercising you earn a varying number of aerobics points for each activity. An individual in good condition should plan a program including at least 30 points per week.

What does this have to do with a computer database? In this assignment you will use a file of aerobics information to plan an exercise schedule.

A six-week starter program is suggested as a way of working into an aerobics program and building up to a 12-minute fitness test:

WEEK	POINTS PER WEEK
1	5
2	20
3	10
4	15
5	15
6	15

At the conclusion of this six-week program, and assuming that you have had a recent check-up and are healthy, run for 12 minutes to determine your fitness category:

FITNESS CATEGORY	MILES UNDER 30 YEARS OLD	30-39 YEARS OLD
I	less than 1	less than 0.95
II	1.00 - 1.24	0.95 - 1.14
III	1.25 - 1.49	1.15 - 1.39
IV	1.50 - 1.74	1.40 - 1.64
V	more than 1.75	more than 1.65

Depending on your level of fitness, you will want to build up to the 30 point per week level in different stages:

FITNESS CATEGORY	WEEK	APPROXIMATE NUMBER OF AEROBICS POINTS/WEEK
	7	20
	8	20
	9	20
	10	22
I	11	22
	12	26
	13	27
	14	27
	15	30
	16	33
	7	20
	8	22
	9	22
II	10	27
	11	27
	12	30
	13	33
	7	26
	8	27
III	9	30
	10	33
IV/V		at least 30 points per week

Load the AEROBICS data base file.

1) Your 15-year old brother enjoys running and swimming. Plan a six-week starter program (Level I) that will have him exercising five (5) times per week. (While it is possible to earn all of the required points in one outing, it is certainly not advised - particularly for a poorly conditioned individual. Start with a little bit in small doses.)

2) Suppose your brother wants to earn as many points in as little time as possible. Adjust his program allowing for any type of exercise, but still requiring 5 exercise periods per week.

3) Assuming that you are in 30-POINT-PER-WEEK condition, plan an exercise program for yourself with activities that you enjoy. Remember, exercise 4 to 5 times per week.

AEROBICS PROGRAM

WEEK #	ACTIVITY	TIME PLANNED	TIME ACTUAL	POINTS EARNED

NAME: _____ DATE: _____

CAR COMPARISON

HANDY REFERENCE SHEETS.....DATABASE

KEYS TO REMEMBER

OPEN APPLE F.....find a particular piece of information
OPEN APPLE R.....write a rule to select a set of information
OPEN APPLE A.....arrange information
OPEN APPLE Z.....zoom in or out on records

What is important to you in buying a car? Is it the size of the engine? The cost? The fuel efficiency? The reliability? Most likely, it is a combination of a variety of factors. The CARS database is a tool you can use to combine the factors that are most important to you in identifying the cars that best meet your needs.

1) Load the file. Scan through the list of cars to become familiar with those included. Zoom in a particular car and become acquainted with the categories of information that are included in the database. A more thorough description of each category of information is provided on the attached CARS CATEGORIES sheet.

2) Write selection rules and/or arrange information as needed to answer each of the following questions.

   a) Which manufacturer seems to build the safest cars based on the sample in the database?

      selection:

   b) How does the engine size of cars that get better than 28 miles per gallon compare with those that get less?

      selection:

c) Teenagers benefit from buying cars that have discounted insurance rates in order to help offset the added costs of insurance due to their age. Which cars in the database meet this condition and what characteristics do many of them have in common?

selection:

d) Can you buy a car that has better than a 36-month warranty and costs less than $20,000?

selection:

3) Write two questions of your own related to the information in the database. Write selection rules or arrange the information as needed to answer your questions.

a) Question -

selection:

b) Question -

selection:

4) From among the categories in the database, identify the three that are of most importance to you in buying a car. Set limits on each (e.g. - Suggested Price less than $10,000). Determine which of the cars in the database meet your needs.

Categories	Limits
_____	_____
_____	_____
_____	_____

selection:

Cars

CARS CATEGORIES

Manufacturer -	the company responsible for manufacturing and selling the car
Model -	the name by which the car is known
Body Type -	for example: 2 door, hatchback, station wagon
Suggested Price -	the manufacturer's suggested retail price plus the dealer preparation charges
Engine Size -	the volume of all cylinders in liters
MPG -	the Environmental Protection Agency's estimate of the number of miles per gallon for city driving
Horsepower -	indicates the power of the engine
Crash Test Rating -	scores on a 35 mph crash test. Lower numbers indicate better (or safer) results.
Insurance Rating -	Regular, Surcharge, or Discount depending on a combination of factors including design, maneuverability, crash test results, and body type
Maintenance Costs -	High, Medium, or Low depending on estimates of the cost of preventive maintenance during the first 50,000 miles
Basic Warranty -	the number of months or miles in which the warranty is in effect
Est. Resale Value -	the estimated resale value of the car after four years
Complaint Index -	Poor, Average, or Good based on the ratio of the number of complaints received by the National Highway Traffic Safety Administration compared to the numbers of the car sold

LESSON 6

CREATING A DATABASE

The program skills necessary to create a database are relatively easy to learn. Giving a file a name, designating category headings, and entering data are mechanical skills, like typing and penmanship. Learning how to compose and express our thoughts as precisely as possible, however, is conceptually much more difficult. So, too, is the process of formulating the content and organization of a database.

This lesson uses a large group format to develop a database project. Depending on the ability level of your class, a project such as this may prove too difficult for small groups. Middle school teachers have indicated success with advanced eighth graders working in small groups. Average ability high school juniors and seniors are able to implement their own projects, although the exchange of ideas provided by groups is preferable.

As a teacher, you may find yourself threatened by the degree to which students control the development of the suggested project. You need not be. One of the more exciting aspects of working with computers and this type of project is the group dynamics. Students get enthused about their own questions and about thinking through ways in which they can be answered. They eagerly help one another to "debug" the database development process to make their project work. In the end, they will have learned more from their mistakes and from their results, however imperfect they may be, than from a more traditional expository treatment of the subject.

Number of Class Periods: 10 - 14

Overhead Transparencies: 35 - 39

Reference Sheet: Creating a Database (p. 145)

Creating and using a database generally consists of the following steps:

1) Identify a problem.

2) Brainstorm questions related to the problem.

3) Identify the specific information needed to answer each of the questions and possible sources.

4) Analyze the scope of the problem and the appropriateness of using a computer to explore it.

5) Prioritize the questions and select those which will be studied.

6) Clarify and eliminate duplicate categories of information.

7) Identify the key, or most significant, category.

8) Arrange information by categories in a table.

9) Modify categories and the organization of information as needed so that you can answer your questions. (This may involve repeating all or some of steps #2-8.)

10) Do the research to gather the necessary information.

11) Create the computer version of the database and enter the data; supplement it with other sources as needed.

12) Ask your questions in the form allowed by the database program you are using. Develop and test hypotheses, and draw conclusions.

13) Summarize your work and conclusions in a report.

Only two of these steps (#11,12), and perhaps three (#13) if a word processor is used, require the use of a computer. Otherwise, the process of creating a database is a conceptual activity akin to composition.

AN EXAMPLE

Modeling the creation of a database as a large group activity with the active participation of an entire class is an effective way of introducing the process outlined above. The following example is suggestive. It is important to remember, though, that the activity will have the greatest impact if the problem selected is one in which you and your class share a mutual interest.

1) IDENTIFY THE PROBLEM.

Prime time commercial television seems to be dominated by a limited variety of different types of shows.

2) BRAINSTORM RELATED QUESTIONS.

Depending on the number of questions, this activity will take a considerable amount of room. You will need ample board space or butcher paper on which questions can be recorded. Leave room beneath each question to expand your outline in the next step.

a) What types of shows are aired?

c) How do the different networks compare in terms of the types of shows they present?

d) Is there a relationship between types of shows and the tastes of different age groups?

e) Is there a relationship between the type of show and the time it is shown?

f) Do different advertisers tend to purchase time on different types of shows?

g) Are different types of products associated with different types of shows?

5) IDENTIFY KINDS OF INFORMATION NEEDED AND SOURCES.

a) a list of class-developed categories of show types (e.g. - situation comedies, sports, movies, soaps, drama) and a matching list of criteria for classifying shows in each category

b) a list of shows classified by network and type (TV Guide and list of categories and criteria)

c) a list of shows classified by the age group to which each is aimed (results of class survey of different age groups and their viewing preferences)

d) a list of shows classified by time shown (TV Guide)

e) a list of advertisers for each show (summary of 1 or 2 weeks viewing and tallying of advertisers)

f) a list of class-developed categories for classifying types of products (e.g. - food, beverages, cleaning products, movies, personal care products) and criteria for classifying in each category

a list of advertisers for each show by type of product (class summary of advertisers and classification scheme)

4) ANALYZE THE SCOPE OF THE PROBLEM.

There are basically two questions to answer here. Is the computer an appropriate tool to use in analyzing the problem the way it has been defined? Is the software adequate to manage the amount of information that will be collected? A computerized date book, for example, is not necessarily the most convenient form in which to record appointments. Nor is AppleWorks, used with a 128K Apple //, suitable for maintaining an inventory of even a small store. (There is a limit of approximately 750 records unless extra memory is added to the computer.) It is important for students to realize that a computer database, despite its novelty, is only one among many means of organizing and communicating the information with which they are working.

The data that will be required to explore the television problem seems to satisfy both conditions. The information is not easily accessible in any one source, and it is not an overwhelming amount.

5) PRIORITIZE QUESTIONS.

The task of prioritizing questions most clearly establishes the tone and perspective of the project. Choosing to emphasize the role of advertisers in the present case, for example, would cast the data in a different light than focusing on age group preferences. The task is analogous to the process of outlining an essay and identifying a thesis statement and those arguments that best support it. The nice thing about an electronic database, though, is that it is dynamic. The priorities you establish now are not "carved in stone." The tool allows you the flexibility of examining the data under a different organization later.

QUESTIONS IN ORDER OF SIGNIFICANCE FOR THIS EXAMPLE:

a, f, e, b, c, d

6) CLARIFY CATEGORIES OF INFORMATION.

It is now possible to define specific categories of information based on the significance that has been attached to each of the questions.

CATEGORY	DEFINITION
Show	o title
Type	o based on class list of categories and criteria
Principal Advertiser	o "This show brought to you by..."
Type of Product	o based on class list of categories and criteria
Network	o ABC, NBC, CBS
Target Audience	o based on class age group definitions and survey
Broadcast Time	o prime time (8:00 - 11:00 PM)

7) IDENTIFY THE KEY CATEGORY.

Identify the focus of information in the database-in this case the name of each show.

8) ARRANGE IN A TABLE.

SHOW	TYPE	PRINCIPAL ADVERTISER	TYPE OF PRODUCT	NETWORK	TARGET AUDIENCE	BROADCAST TIME
Magnum						
Cheers						
Cosby						
.						
.						
.						

9) TEST YOUR ORGANIZATION.

Students may experience difficulty at this point because they failed to keep in mind the questions they want answered as they categorized the available information. You need to ask whether or not the structure imposed on the data supports answering the types of questions raised. Now is the time to test the organization by posing the questions, identifying appropriate database operations, and checking their feasibility against the categories defined.

For example:

How do the different networks compare in terms of the different types of shows they present?

for each network -

Selection Rule: Network equals ---

Arrange by: Type

This question can be answered. However, you may decide after review that certain questions cannot be answered because of limitations in the organization of the data or limitations in the database program itself. Careful review can save considerable effort in collecting data in either case.

10) DO THE RESEARCH.

Collecting the information necessary for this example will clearly benefit from a division of labor. Teams must be assigned the projects of developing survey questions and classification schemes for shows and advertising products and then conducting the surveys. Cards need to be prepared for collecting data on individual shows. Individuals must then be assigned the task of watching specific shows...

Students are particularly susceptible to two problems involved in the research process:

1) Lack of Objectivity - Preconceptions have a way of sneaking into work. The way in which survey questions are posed, for example, may influence answers. It is important that work be reviewed with this possibility in mind.

2) Poor Sampling - Generalizations apply only to the sample from which data is fairly drawn. You need to question how representative the sample is of the population involved and whether or not a random process is planned to collect data.

11) CREATE THE COMPUTER VERSION OF THE DATABASE.

Now that all of the data is collected, it is ready to be incorporated in a file using AppleWorks. Discuss the steps involved using overhead transparencies #11-13. Students can practice these steps if each pair of students creates their own version of the class file and then goes from computer to computer entering a small part of the data.

12) USE THE DATA

Student the opportunity to use the database file to answ stions that were raised originally. There is als rtunity for a good deal more learning abo cess of conducting research. Raise the followin questions as students work with the file:

- Is t icient information?
- What pes of information might have been incl
- Is t mation objective? Can you see the opin your class reflected in the data?
- Do y that if you followed the same process agai lecting your data that the results woul same?
- Now u have worked with the data, have you disc any new or unexpected relationships? If y , how can you test them?

13) REPORT RESUL

Reporti results of the project should provide both the opp ty to draw conclusions and to reflect on the process. ents should be asked to identify problems wit way in which the project was carried out and to sugge rovements.

POSSIBLE PROJECTS

- The conter teen music and videos (A project suggested students during Congressional hearings on violence ock music.)
- Middle sch social groups (A file developed on the basis of eys of individual middle school students.
- Newspaper tomers (A file developed by an individual high schoo tudent to help manage his paper route. This proje was implemented on a spatial database so that there as a map component to each record.)
- College ref ence guide (A group of senior students identified id collected information important to them in selectin a college.)
- Advertising ppeal (A file categorizing advertisements on the basis of the factors to which they appealed.)

LESSON 7

DATABASE REPORTS

It is unusual that all of the information in a database will be presented at once. Rather, students will want to be able to organize the information to suit a particular purpose and to select only the portion of the data that they want to use. It is possible when printing to apply the same techniques (i.e., finding, arranging, selecting, and reorganizing categories) that were used to select and modify data displayed on the screen. This lesson provides an opportunity to review each of these activities and to enable students to print database tables.

Number of Class Periods: 1-2

Worksheets

Database Reports

Student AppleWorks Files

Olympics (DB)

Overhead Transparencies

40 - 43

Objectives

Students will be able to explain or demonstrate the following:

Facts:

- Use OPEN APPLE P to print a database report.
- It is possible to switch the organization of database categories or to eliminate categories in preparing a report.
- The same procedures for finding, arranging, and selecting records in the AppleWorks workspace can be applied to creating tables to be printed.

Students will demonstrate skill at printing a database table according to given specifications.

Activity 7.1 - Discussion & Demonstration

Materials:

- transparencies 40-43
- overhead projector

- computer & monitor

Use transparencies 40-43 to describe the process of developing a "tables" report. Demonstrate the process using one of the database files students have used in previous activities (CLASS DB, AEROBICS, MY TOWN, CARS).

Activity 7.2 - Database Reports

Materials:

- copies of the "Database Reports" worksheet for each student (see pp. 77-78 or DB REPORTS on TEACHER disk)

The "Database Reports" worksheet takes students from using a report format that is part of the OLYMPICS database file, to creating and using their own reports. Make special note of the fact that reports should be prepared initially for viewing on the screen. Both class and printer time are saved if students check the organization of their reports before making paper copies.

Activity 7.3 - Database Quiz

Materials:

- QUIZ2 file on the TEACHER data disk (see pp. 159-163 for answer key)

The database quiz includes questions about finding, arranging, and selecting database information. It also includes questions designed to test student ability to translate questions into appropriate database operations.

Prepare copies of the quiz as before, selecting the desired questions from the QUIZ2 file, adding any of your own questions, numbering questions, and paginating.

NAME: _____

DATE: _____

DATA BASE REPORTS

HANDY REFERENCE SHEETS.....DATABASE OPERATIONS

KEYS TO REMEMBER

OPEN APPLE O.....printing options
OPEN APPLE R.....write a rule to select a set of information
OPEN APPLE A.....arrange information
OPEN APPLE < >.....rearrange categories

Load the OLYMPICS database. You are going to prepare three different tables of information from this file.

1) a) Press OPEN APPLE P to print a database report.

b) Select to get the report format called SAMPLE REPORT.

c) Notice the categories that will appear in the report and the selection rule that was applied to pick records. This table will include only the names of the medalists in the track & field events.

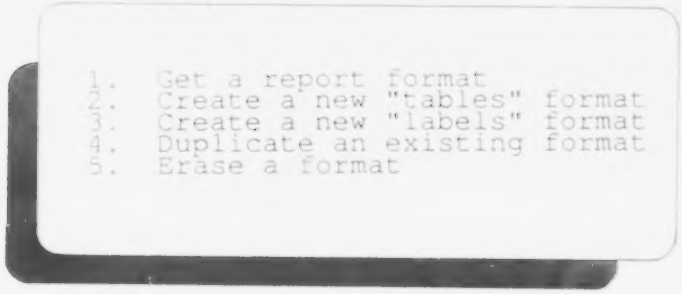
Selection: COMPETITION contains TRACK & FIELD

--> or <-- Move cursor	∂-J Right justify this category
> or < Switch category positions	∂-K Define a calculated category
--> ∂ <-- Change column width	∂-N Change report name and/or title
∂-A Arrange (sort) on this category	∂-O Printer options
∂-D Delete this category	∂-P Print the report
∂-G Add/remove group totals	∂-R Change record selection rules
∂-I Insert a prev. deleted category	∂-T Add/remove category totals

EVENT	GOLD	COUNTRY1	WINNING MARK
-A-	-B-	-C-	-D-

d) Press OPEN APPLE P [illegible] to print the report on this screen.

e) ESC back to this menu:


1. Get a report format
2. Create a new "tables" format
3. Create a new "labels" format
4. Duplicate an existing format
5. Erase a format

2) a) Now select to create a new tables format.

b) Name the report GYMNASTICS.

c) Change the selection rule so that only the gymnastics events are selected.

d) Arrange the events alphabetically by event.

e) Reorganize the table (OPEN APPLE < >) so that the headings are:

EVENT COUNTRY1 COUNTRY2 COUNTRY3

f) Delete (OPEN APPLE D) all of the other categories.

g) Assume that you have 65 columns per line. Adjust the width of the categories so that the longest entries fit, and you make use of all 65 columns.

h) Print the report on the screen.

i) Make any necessary adjustments.

j) ESC back to the print reports menu.

3) Create a report called ROMANIA which lists just the events in which Romanians medaled. Sort this list alphabetically.

Save the OLYMPICS file with the report formats you have created.

4) All three of the table formats you have created are now saved. Print a paper copy of each table.

LESSON 8

AN INTRODUCTION TO SPREADSHEET ACTIVITIES

A spreadsheet is a marvelous calculator. It is much more, though. By providing the ability to define relations between individual locations in a table and to update computations based on these relations as new values are entered, a spreadsheet provides the opportunity to explore problems on a conditional basis. What if, for example, I up the payments on my home mortgage by $50.00 or $75.00 or $100.00 a month over the life of the loan? How much sooner will the loan be paid off and how much in interest will I save? Or, what if Mark scores 75 or 85 or 95 on the next test? How will that affect his final grade? A spreadsheet makes answering questions such as these as simple as entering the new loan payment or test score.

This lesson introduces students to using a spreadsheet as a calculator and as a "What if...?" problem solving tool. It also introduces them to what a spreadsheet is. In the absence of any convenient metaphor, the lesson begins with a pencil, paper, and calculator worksheet that poses problems which are much more conveniently solved with a spreadsheet. The goal is to develop an understanding of how values in the tables involved are interrelated; that changing a single value may affect many others. The computer activities repeat the pencil and paper questions and then get at problems that are not practical without the power of a spreadsheet.

Spreadsheets lend themselves to a variety of types of graphs as an alternative means of presenting data and relationships. If you have incorporated the TimeOut Graph software as part of your classroom AppleWorks your students can take advantage of the graphing activities that are suggested as part of several of the ClassWorks spreadsheet activities.

Number of Class Periods: 6-7

Worksheets	Student AppleWorks Files
Party Planner	
Party Planner SS	Party (SS)
Car Wash	
Car Wash SS	Wash (SS)
Prob Machine	Probability (SS)
Best Fitting It	Best Fitter (SS)

Reference Sheet	Overhead Transparencies
Spreadsheet Operations	44

Objectives

Students will be able to explain or demonstrate the following:

Terms:

- row
- column
- cell
- label
- value

Concepts:

spreadsheet

Facts:

- Rows run horizontally; columns vertically.
- A cell is referred to by the letter of a column and the number of a row.
- A value is a number in a cell that can be used in a computation.
- A label is a description that cannot be used as part of a computation.

Students will demonstrate the ability to:

- enter labels and values into a spreadsheet
- use a spreadsheet to answer "What if...?" questions

Activity 8.1 - Paper, Pencil, & Calculator First

Materials:

- copies of worksheets for each student: "Party Planner" (see pp. 85-87 or TEACHER disk) and/or "Car Wash" (pp. 93-95 or TEACHER disk)

Two sets of "Paper, Pencil, & Calculator" worksheets are provided to introduce students to the way in which a spreadsheet behaves. Depending on the ability level of your class, you may want to have them work through both sets. The "Party Planner" assignment is the easier of the two.

The worksheets are designed to expose students to the interrelated nature of information in the tables. Questions require that students identify the particular pieces of information that are involved and their

relationship to one another. They must then apply the relationship to determine new information. The assumptions followed in building the tables are listed on the front of each worksheet. Review them carefully as you introduce the worksheets, making sure that students understand their implications in the tables.

Activity 8.2 - Worksheet Review and Spreadsheet Demo

Materials:

- transparency #44
- overhead projector
- computer & monitor
- copies of "Spreadsheet Operations" reference sheet for each student (see p. 147)

Use transparency copies of the "Party Planner" and/or "Car Wash" tables and have students present and discuss their solutions to questions on the worksheet assignment. Follow-up with a demonstration of the use of the PARTY and/or WASH spreadsheet files. Transparency 44 provides a reference for students to use in locating information in the table.

Activity 8.3 - Spreadsheet Activity

Materials:

- copies of worksheets for each student:
  "Party Planner" (see pp. 89-91 or PARTY PLANNER SS on TEACHER disk) and/or
  "Car Wash" (pp. 97-99 or CAR WASH SS on TEACHER disk)

Give students a chance now to use the spreadsheet version of the tables with which they have been working. The second version of each of the worksheets includes the same questions as the pencil, paper, & calculator versions, as well as several extensions. The last question on each sheet asks students to create and solve their own problems. A good model is a must. Most students are simply not used to asking the questions. Take every available opportunity as you work with students to suggest extensions, to ask "What if...?", and to test hypotheses. Often times the more far fetched the question, the more profitable the experience. Once students become aware that they can lose money on the "Car Wash," for example, the problem becomes, "Who can lose the most?" By the time the contest is over, students are

comfortable with the basics of using a spreadsheet and much less apprehensive about posing their own questions.

Activity 8.4 - Spreadsheets in the Math Classroom

Materials:

- copies of worksheets for each student:
  "The Probability Machine" (pp. 101-103 or TEACHER disk.) and/or
  "Best Fitter" (pp. 105-106 or TEACHER disk.)

One of the more important uses of mathematics is to model, or to simulate, events and relationships from the real world. The two spreadsheet templates included in this activity give students an opportunity to explore the potential for using a computer in this manner and at the same time promote understanding of two important mathematical concepts: probability and the algebra of lines.

The PROBABILITY spreadsheet is a general purpose tool for conducting probability experiments. Directions for operating the spreadsheet in the context of first a coin toss experiment and then the simulation of shooting free throws are included on the "Probability Machine" worksheet.

Possible Additional Experiments/Simulations:

- Toss tacks. What is the probability a tack will land point up? point down? Tacks will have to be tossed to determine the expected probabilities.

- A cereal company is promoting its product by enclosing the picture of one of six rock stars in each box. On average, how many boxes of cereal would a fan have to buy to collect all six pictures?

- A baseball player comes to bat an average of four times a game. What is the probability that a .350 hitter will go 4 for 4 (four hits for four times at bat) in a game?

- Conduct a survey of the use of the school cafeteria to determine the expected number of males and females who use it each day. Simulate use of the cafeteria for an entire term.

Teaching Tips:

- The expected probabilities in row 13 are most conveniently entered as ratios. This means, for example, that if the probability of an event is 2/3, then enter the ratio "2/3". The division is done automatically and while the result is rounded to the nearest 0.01 on the display, the spreadsheet arithmetic is accurate to seven decimal places.

- PROBABILITY.GF can be loaded along with the spreadsheet file to create bar graphs of the results of experiments if the TimeOut: Graph is part of students' AppleWorks.

Line, and more generally, curve fitting, is an important topic in algebra and advanced algebra courses. The BEST FITTER spreadsheet template is a tool that can be used to:

- plot data
- explore characteristics of lines and the relationship of these characteristics to the equations of lines
- determine the "best fit" model of a relationship between two sets of data

By turning the "Best Fit?" function of the spreadsheet off in cell F5, data can be entered in columns A and B and the BEST FITTER.GF Timeout graph file used to create a scatter plot of the data. With the "Best Fit?" function on, the spreadsheet can be used in two additional ways. If you blank the slope and y-intercept formulas in cells F8 and F9 before you save the file to student disks, students can locate the line of best fit by a "guess, check, and refine" approach: using their understanding of slope and intercept to make and enter educated guesses about these values, checking how well the line graphed fits the data, and refining their guesses as needed. Finally, the BEST FITTER can be used as a tool that automatically determines the line of best fit and the correlation coefficient. Sample sets of data are included on the back side of the "Best Fitter" instruction sheet.

NAME: _____

DATE: _____

PARTY PLANNER (Pencil & Paper)

Planning for a party means thinking about how much everyone will eat and drink and how much it will all cost. The table below is organized to make thinking about the costs easier.

Guest of Honor:

ITEM TO BUY	AMOUNT PER GUEST	UNIT	AMOUNT NEEDED	UNIT COST	TOTAL COST
Chips	.5	bag	_____	$2.29	_____
Hamburger	.5	pound	_____	$2.97	_____
Soft drinks	.5	can	_____	$.89	_____
Pretzels	.25	bag	_____	$1.29	_____
Salad	.33	jar	_____	$1.89	_____
Ice Cream	.25	package	_____	$2.19	_____
Marshmallows	.1	package	_____	$1.59	_____
Plastic cup	1	each	_____	$.06	_____
Napkins	1	wood	_____	$.79	_____
				party cost:	_____

ClassWorks Worksheet 95

3) The values in the table are interrelated. This means that if you change one, you may affect several others. For example, changing the unit cost of chips affects the total cost of chips and, therefore, the total cost of the party.

a) Suppose you change the amount of hamburger you expect each guest to eat. Look through the table and list the other values that are affected?

b) What if the number of guests is changed. List the affected values.

c) Suppose you have only a certain amount to spend. What values can you adjust to help you stay within budget.

4) Determine the party cost in each of these situations.

a) Looking over the grocery ads, you discover the following prices:

Chips - $1.17 per bag
Hot dogs - $1.97 per package
Marshmallows - $1.75 per package

ITEM	AMOUNT PER GUEST	UNIT	AMOUNT NEEDED	UNIT COST	TOTAL COST
Buns	.5	bag	1.0	$	$
Hamburger	1/3	pound	6.0	$0.97	$5.81
Soft Drinks	1/2	can	12.0	$ .49	$5.88
Pickles	.2	jar	1.0	$1.29	$1.29
Relish	.2	jar	1.0	$1.49	$1.49
Hot Dogs	.4	package	1.0	$	$
Marshmallows	.1	package	1.0	$	$
Plates	1.0	each	8.0	$ .10	$ .80
Napkins	1.0	each	8.0	$ .05	$ .40

b) You decide to invite three (3) more guests.

NUMBER OF GUESTS: ___

NEED TO BUY	AMOUNT PER GUEST	UNIT	AMOUNT NEEDED	UNIT COST	TOTAL COST
Chips	.5	bag	_____	$1.27	$____
Hamburger	.5	pound	_____	$1.37	$____
Soft Drinks	2.0	can	_____	$.55	$____
Pickles	.2	jar	_____	$1.25	$____
Relish	.2	jar	_____	$1.89	$____
Hot Dogs	.2	package	_____	$.97	$____
Marshmallows	.1	package	_____	$.79	$____
Tomatoes	.5	each	_____	$.45	$____
Lettuce	.1	head	_____	$.72	$____

PARTY COST: $____

c) You remember that most of your guests are members of Perpetual Ingestors of Gross Servings (PIGS). Double the amount per guest of each item.

NUMBER OF GUESTS: ___

NEED TO BUY	AMOUNT PER GUEST	UNIT	AMOUNT NEEDED	UNIT COST	TOTAL COST
Chips	____	bag	_____	$1.27	$____
Hamburger	____	pound	_____	$1.37	$____
Soft Drinks	____	can	_____	$.55	$____
Pickles	____	jar	_____	$1.25	$____
Relish	____	jar	_____	$1.89	$____
Hot Dogs	____	package	_____	$.97	$____
Marshmallows	____	package	_____	$.79	$____
Tomatoes	____	each	_____	$.45	$____
Lettuce	____	head	_____	$.72	$____

PARTY COST: $____

NAME: _____

DATE: _____

PARTY PLANNER (Spreadsheet)

HANDY REFERENCE SHEETS.....SPREADSHEET OPERATIONS

KEYS TO REMEMBER

ARROWS.....move the cursor to the desired cell
OPEN APPLE ?.....help

What if you only have $15.00 for the party? There are lots of values you can play with to see if you can make it work, but lots of messy arithmetic, too. A spreadsheet is a calculating tool that you can use to make this problem as easy as entering numbers in the table:

ITEM	AMOUNT PER GUEST	UNIT	AMOUNT NEEDED	UNIT COST	TOTAL COST
Chips	.5	bag	3.0	$1.19	$3.57
Hamburger	.5	pound	3.0	$1.37	$3.43
Hot Drinks	1.0	can	18.0	$1.39	$25.00
Pickles	.2	jar	1.0	$1.29	$1.29
Relish	.2	jar	1.0	$1.89	$1.89
Hot Dogs	.2	package	1.0	$1.19	$1.19
Marshmallows	.2	package	1.0	$1.99	$1.99
Tomatoes	.5	each	3.0	$.49	$1.47
Lettuce	.5	head	3.0	$.79	$2.37
				PARTY COST:	$43.44

Load the PARTY spreadsheet file from your disk.

ASSUMPTIONS:

1) If 5 guests each eat 1/2 bag of chips, you will need to buy 2 1/2 bags. You have to buy complete bags, though. Get 3. The same is true of all the other items in the list except hamburger.

2) Answers are rounded off to the nearest tenth (0.1) or the nearest cent ($0.01), whichever is appropriate.

---

1) Use the spreadsheet and determine the cost of the party in each of these situations.

a) Looking over the grocery ads, you discover the following price changes:

chips - #1.27 per bag
hot dogs - $0.97 per package
marshmallows - $0.79 per package

PARTY COST: $_____

b) You decide to invite three (3) more guests.

PARTY COST: $_____

c) You remember that most of your guests are members of Perpetual Ingestors of Gross Servings (PIGS). Double the amount per guest of each item.

PARTY COST: $_____

2) a) A serious problem exists. You discover that you only have $15.00 in your piggy bank. Assuming that the cost of groceries will not change in the next day and that you have to serve everything you planned, make whatever adjustments are necessary to have the party for $15.00 or less. List your changes below.

b) There is no way around it - you have to invite 8 friends, but you still only have $15.00. Try again. List the changes you decide on.

3) Write and solve your own problem using the PARTY PLANNER spreadsheet. Be creative!

NAME: _____

DATE: _____

A CAR WASH (Pencil & Paper)

Club or class projects can be both fun and profitable. A car wash is a good example. But to be successful you need to do careful planning. A table like the one below can help to organize the effort.

NUMBER OF PARTICIPANTS: 24
WORK IN TEAMS OF: 5
NUMBER OF HRS WE WILL WORK: 10
CHARGE: $2.50
CARS WASHED: _____
EXPECTED NUMBER OF CARS/HR: 20
TOTAL INCOME: $_____

SUPPLIES	UNIT	NUMBER NEEDED	UNIT COST	TOTAL COST
Soap	box	____	$1.98	$_____
Sponges	each	____	$.98	$_____
Paper Towels	roll	____	$1.12	$_____
Window Cleaner	bottle	____	$2.79	$_____

TOTAL EXPENSES - $_____
WE WILL EARN - $_____

ASSUMPTIONS:

1) Based on past experience you decide that supplies should be bought according to these rules:

* 1 box of soap for every 100 cars
* 1 sponge per group
* 1 roll of towels for every 75 cars
* 1 bottle of window cleaner for every 50 cars

2) You have to buy whole boxes of soap, rolls of paper towels, and bottles of window cleaner even though you may only need part of one.

3) TOTAL INCOME is the product of the number of CARS WASHED * CHARGE. Find the amount you WILL EARN by subtracting TOTAL INCOME - TOTAL EXPENSES.

4) Round answers off to the nearest cent. (2 digits)

1) Complete the table.
2) An important fact about using the table is in understanding that changing a single value may affect many others. For example, changing the size of each group affects the amount of each supply needed and, therefore, the total expenses and what you will earn.

a) Suppose you change the cost of the soap. Look through the table and list the values that are affected?

b) What if the expected number of cars per hour is changed. List the affected values.

c) Suppose you want to make as much money with as few people as possible. What values must you adjust to discover the right combination?

3) Determine what you would earn in each of these situations.

a) 5 people is too many per group. You decide to give 3 a try.

NUMBER OF PARTICIPANTS: 24
WORK IN TEAMS OF: CHARGE: $ $2.50
NUMBER OF HRS WE WILL WORK: 10 CARS WASHED: 200
EXPECTED NUMBER OF CARS/HR: 20 TOTAL INCOME: $500.00

SUPPLIES	UNIT	NUMBER NEEDED	UNIT COST	TOTAL COST
Soap	box	____	$1.98	$_____
Sponges	each	____	$.45	$_____
Paper Towels	roll	____	$1.12	$_____
Window Cleaner	bottle	____	$2.79	$_____
			TOTAL EXPENSES =	$_____

c) The weather report predicts rain in the afternoon. You will probably only be able to work for 3 hours and there will be fewer cars - say 15 every hour.

NUMBER OF PARTICIPANTS: 24
WORK IN TEAMS OF: 3
NUMBER OF HRS WE WILL WORK: ___

CHARGE: $ $2.50
CARS WASHED: ____

EXPECTED NUMBER OF CARS/HR: ___

TOTAL INCOME: $_____

SUPPLIES	UNIT	NUMBER NEEDED	UNIT COST	TOTAL COST
Soap	box	____	$1.98	$_____
Sponges	each	____	$.98	$_____
Paper Towels	roll	____	$1.12	$_____
Window Cleaner	bottle	____	$2.79	$_____

TOTAL EXPENSES - $_____

WE WILL EARN - $_____

d) What if you charge $3.00? You will probably discourage some customers. Count on only 14 an hour now.

NUMBER OF PARTICIPANTS: 24
WORK IN TEAMS OF: 3
NUMBER OF HRS WE WILL WORK: 3

CHARGE: $ $____
CARS WASHED: ____

EXPECTED NUMBER OF CARS/HR: ___

TOTAL INCOME: $_____

SUPPLIES	UNIT	NUMBER NEEDED	UNIT COST	TOTAL COST
Soap	box	____	$1.98	$_____
Sponges	each	____	$.98	$_____
Paper Towels	roll	____	$1.12	$_____
Window Cleaner	bottle	____	$2.79	$_____

TOTAL EXPENSES - $_____

WE WILL EARN - $_____

NAME: _____

DATE: _____

A CAR WASH (Spreadsheet)

HANDY REFERENCE SHEETS.....SPREADSHEET OPERATIONS

KEYS TO REMEMBER

ARROWS.....move the cursor to the desired cell
OPEN APPLE ?.....help

An electronic spreadsheet is a calculator that allows you to ask "What if...?" What if only 10 people show up to wash cars? What if 30 cars come every hour? A spreadsheet makes answering questions like this as easy as typing the numbers in the right place in the table:

NUMBER OF PARTICIPANTS:	24		
WORK IN TEAMS OF:	5	CHARGE:	$2.50
NUMBER OF HRS WE WILL WORK:	10	CARS WASHED:	200
EXPECTED NUMBER OF CARS/HR:	20	TOTAL INCOME:	$500.00

EXPENSES	UNIT	NUMBER NEEDED	UNIT COST	TOTAL COST
Soap	box	2	$1.98	$ 3.96
Sponges	each	6	$ .98	$ 4.90
Paper Towels	roll	3	$1.12	$ 3.36
Window Cleaner	bottle	2	$2.79	$ 5.58
			TOTAL EXPENSES =	$17.80
			WE WILL EARN =	$482.20

Load the spreadsheet file called WASH. REMEMBER!

1) Based on past experience you decide that supplies should be bought according to these rules:

* 1 box of soap for every 200 cars
* 1 sponge per person
* 1 roll of towels for every 75 cars
* 1 bottle of window cleaner for every 100 cars

c) You have to buy whole boxes of soap, rolls of paper towels, and bottles of window cleaner even though you may only need part of one.

d) TOTAL INCOME is the product of the number of CARS WASHED * CHARGE. Find the amount you WILL EARN by subtracting TOTAL INCOME - TOTAL EXPENSES.

e) Answers are rounded off to the nearest cent ($0.01).

---

1) Use the spreadsheet to determine what you would earn in each of these situations.

a) 5 people is too many per group. You decide to give 3 a try.

WE WILL EARN: $_____

b) The weather report predicts rain in the afternoon. You will probably only be able to work for 3 hours and there will be fewer cars - say 15 every hour.

WE WILL EARN: $_____

c) What if you charge $3.00? You will probably discourage some customers. Count on only 14 an hour now.

WE WILL EARN: $_____

2) a) Suppose you hold the number of participants constant at 24 and the charge for washing a car at $3.00. What size groups should you use to make the most money? Explain.

b) What if 32 people help? Does this affect the size of the groups you would need to use to make the greatest amount of money?

3) You would like to make at least $400.00 using as few people as possible. If you stick to a price of $3.00 per car, how can you organize your crews and make this amount? Explain.

4) Write and solve your own problem using the WASH spreadsheet. Be creative!

NAME: _____ DATE: _____

PROBABILITY MACHINE

Computers are often used to simulate events. That is, they are instructed to pretend to perform an experiment (like flipping a coin) or to recreate an event (like shooting free throws). The PROBABILITY spreadsheet file on your disk will allow you to perform simulations of simple events.

Let's try one. Load the PROBABILITY file.

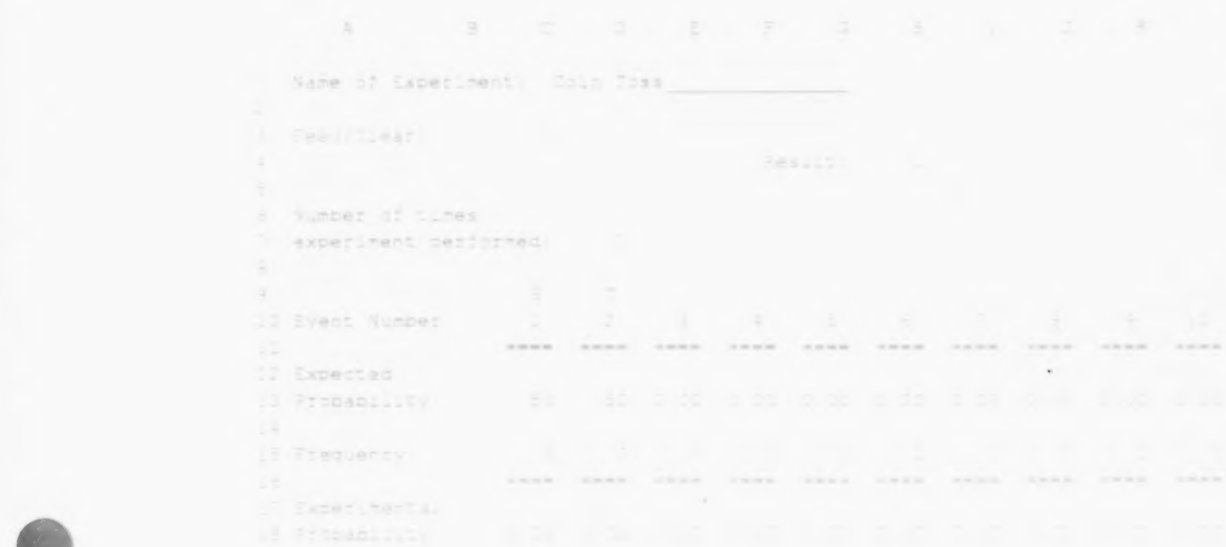
You know that if you flip a coin the probability of getting a head is 1/2. So is the probability of getting a tail. You are going to use the PROBABILITY spreadsheet to simulate tossing a coin.

1) Enter the title, Coin Toss, in cell C1.

2) Let Event #1 on the spreadsheet represent getting a head and Event #2, a tail. Go to cell B9 and enter the label H, for head. Move right to cell C9 and enter T, for tail.

3) We expect to get heads 1/2 of the time. Move to cell B13 and enter the Expected Probability: 1/2 (Make sure that you enter the ratio 1/2). Do the same for tails in cell C13.

4) Before each new experiment, you need to CLEAR the spreadsheet of old data and FEED it a new number. Move to cell B3, enter a 0, and press Return. This CLEARs the sheet. To FEED it, enter a whole number from 1 to 2137 in the same cell. The spreadsheet is now ready to use.


A B C D E F G H I J K
Name of Experiment: Coin Toss
Feed/Clear:
Result:
Number of times experiment performed:
Event Number 1 2 3 4 5 6 7 8 9 10
Expected Probability
Frequency
Experimental Probability

5) To actually perform the simulation, all you have to do is hold down the Open-Apple key and press K (to Kalculate). Every time you press Open-Apple-K, the simulation (in this case, the coin toss) is performed once. Notice that a count is kept in cell C7.

a) Run the simulation (Open-Apple-K) 10 times and record your results below. When you are done, CLEAR the spreadsheet (0) and FEED it (whole number from 1 to 2197) at cell B3.

	H	T
Event #	1	2
	---	---
Expected Probability	.50	.50
Frequency	_____	_____
Experimental Probability	_____	_____

b) Run the simulation again - 50 times. Record your results. CLEAR and FEED the spreadsheet.

	H	T
Event #	1	2
	---	---
Expected Probability	.50	.50
Frequency	_____	_____
Experimental Probability	_____	_____

c) Now try it 100 times.

	H	T
Event #	1	2
	---	---
Expected Probability	.50	.50
Frequency	_____	_____
Experimental Probability	_____	_____

d) What do you notice about the experimental results compared to the expected results as the number of times you run the simulation increases?

6) Suppose that every time you shoot a free throw the probability you will make a shot is 62/100, and the probability you will miss is 38/100. Follow the steps in the summary below and set up the PROBABILITY spreadsheet to simulate shooting free throws.

Run the experiment 50 times. How did you do?

Event #	MAKE 1	MISS 2
Expected Probability	.62	.38
Frequency	_____	_____
Experimental Probability	_____	_____

7) Make-up an experiment of your own and perform it using the PROBABILITY spreadsheet. Report on your results.

SUMMARY

STEP	IN CELL
Enter a title	C1
Label each event	B9...K9
Enter the expected probabilities	B13...K13
Enter a 0 to CLEAR the last experiment	B3
Enter a whole number from 1 to 2197	B3
Run the experiment (Open-Apple-K)	

NAME: _____ DATE: _____

BEST FITTING IT:
INSTRUCTIONS FOR USING THE BEST FITTER SPREADSHEET

The BEST FITTER spreadsheet allows you to enter data into a table of values, to graph the relation as a scatter plot, and then to determine the line of best fit and the equation relating the variables involved. There are several basic steps in using the spreadsheet:

1) Data is entered in cells A4...A18 for X and cells B4...B18 for Y. Go slowly. There are a number of computations that take place every time a new value is entered into the spreadsheet. Wait for the cursor to reappear before you enter the next value.

2) Press **open-apple-esc** to use the automatic grapher. The first time you attempt to make a graph you will need to highlight the FILE option and LOAD the BEST FITTER.GF graph file.

3) Select the VIEW option to create a scatter plot from your table of values.

4) The spreadsheet can be used to automatically determine the line of best fit. Turn this function on by entering a 1 in cell F5. Notice that the slope and y-intercept of the line are now determined as is the equation of the line. VIEW the graph. Note that the line is now included in the scatter plot. The spreadsheet data also includes the correlation coefficient, r. It is a measure of how closely the data fit the line. The closer the value of r is to 1 or -1, the better the fit; the closer to 0, the worse the fit.

5) To clear the spreadsheet for a new table of values, first enter 0 in cell F5. Next, blank the table of values in cells A4...B18 using the **open-apple-B** BLOCK option.

SAMPLE DATA SETS

1) The following table gives estimates of the expected lifespan for people of different ages.

Current Age (X) =	10	15	20	25	30	35	40	45
Lifespan (Y) =	75.3	75.4	75.7	75.7	76.3	76.6	77.0	77.5

2) The winning times in the women's 400-meter relay in the Olympics since 1928 are given in the table below.

Years (X) =	28	32	36	48	52	56	60	64	68
Time (sec) (Y) =	48.4	47.0	46.9	47.5	45.9	44.5	44.5	43.6	42.8

3) The table below contains the average weight (in lbs) of American men 20-26 years old and their heights (in inches):

Height (X) =	65	66	67	68	69	70	71	72	73	74	75	76
Weight (Y) =	143	148	153	157	163	167	171	176	182	187	193	198

4) Total U.S. coal production in tens of millions of tons from 1973 to 1982 is given in this table.

Year (X) =	73	74	75	76	77	78	79	80	81	82
Prod.(Y) =	59.9	61.0	65.5	68.5	69.7	67.0	78.1	83.0	82.4	83.8

LESSON 9

SPREADSHEET FORMULAS

A spreadsheet's power resides in its ability to model an entire system of relations. Formulas are used to define the relations. This lesson involves a review of formulas including the use of variables and order of operations, and is an introduction to their application in a spreadsheet through the use of pointers.

Number of Class Periods: 7-8

Worksheets	**Student AppleWorks Files**
Fred's Fast Fries	Foxy Fred (SS)
Car Costs	Costing It Out (SS)
Basketball Stats	BB Stats (SS)
Remodeling	Remodel (SS)

Reference Sheet	**Overhead Transparencies**
Spreadsheet Operations	45 - 51

Objectives

Students will be able to explain or demonstrate the following.

Concepts:

- formula
- function
- pointer

Facts:

- A formula defines a relation between two or more values and causes the result of the defined computation to be put in a cell.
- AppleWorks has several predefined formulas, or functions, which can be used as part of new formulas.
- AppleWorks functions include @SUM, @AVG, @MAX, and @MIN.

Students will demonstrate the ability to:

- define spreadsheet formulas

Activity 9.1 - Introduction

Materials:

- PARTY or WASH file on the STUDENT data disk
- computer & monitor
- transparencies 45-50
- overhead projector

Understanding the use of formulas is complicated by several factors:

1) Commonly used variable names like x and y may have no meaning for students in relation to the work they are doing.

2) Depending on the student's level of development, entirely different meanings may be attached to letters used as variables. Students at a pre-algebra level commonly regard a variable as an object itself or as a representation of a single unknown value. More advanced students see a variable as a representation of an entire set of values.

A spreadsheet may in fact help to ease students into the use of variables and help them overcome these difficulties, but not without a price: spreadsheets commonly use pointers to variable values instead of variable names. Ideally, spreadsheet formulas would be constructed using variable names that were as descriptive as possible of the values they represent. They are not. Instead of saying, for example, that:

AREA = LENGTH * WIDTH

we must say that:

AREA = +B3 * C3,

referring to the cell locations of the values (or pointing to the values) in the expression instead of using their variable names.

The use of descriptive variable names like LENGTH and AREA (as opposed to L and A, or X and Y) makes formulas easier to understand. Therefore, an important intermediate step in writing spreadsheet formulas with pointers is to have students describe relations using "word formulas" first.

For example:

COST = NUMBER OF POUNDS * PRICE PER POUND

Once such expressions are written, it is an easy step to identify the cell location of each variable value and incorporate the appropriate pointer in a formula. This is a skill that you will need to encourage and model carefully.

Use one of the earlier spreadsheets to introduce the idea of formulas and to demonstrate their implementation. Having worked with either or both the PARTY PLANNER and CAR WASH spreadsheets, students should be thoroughly familiar with the relationships involved. Blank out the formulas in all but the "Number Needed" columns (where rather complicated formulas are used to round up) and use the template as an example for class discussion as you rebuild the model. Do not introduce the idea of copying cells at this point. Repeated entry of formulas will provide practice, as well as provide an intuitive feel for the concepts "Relative" and "No Change" if you want to introduce copying later on. Transparencies 45-50 can be used to highlight your discussion

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Activity 9.2 - Computer Activities

Materials:

- copies of worksheets for each student:
  "Fred's Fast Fries" (see pp. 111-113 or TEACHER disk)
  "Car Costs" (see pp. 115-117 or TEACHER disk)
  "Basketball Stats" (see pp. 119-121 or TEACHER disk) and/or
  "Remodeling" (see pp. 123-125 or TEACHER disk)

Four worksheets are included to give students practice incorporating formulas into a spreadsheet: "Fred's Fast Fries," "Car Costs," "BB Stats," and "Remodeling." All start with a problem situation and a partially completed spreadsheet template. Students are required to first gain some experience with the problem using either pencil and paper or a calculator. Once comfortable with the problem, students must next describe the relationships involved with "word formulas" and then translate their formulas using appropriate pointers from the spreadsheet.

The four worksheets are listed above in order of difficulty. A TimeOut: Graph file is provided as part of the "Fred's Fast Fries" worksheet. The other three activities also lend themselves nicely to the presentation of results in graph form.

Notice that the Car Cost activity makes a nice companion to the Car Comparison Database worksheet. In fact, the two have been tied together in the Cut & Paste project that follows.

The BASKETBALL STAT and REMODEL spreadsheets require that students think beyond the model given. They are asked to think of possible extensions and to build their own ideas into the models. Possible additions to the basketball stat sheet include:

- averages

- names of team leaders
- total rebounds
- data arranged in order

Improvements to the REMODEL spreadsheet might include the addition of unit costs and determining the areas in square yards as well as square feet.

Emphasize the use of parentheses to specify order of operations. +C7*C13 + C8*E14 is different in the AppleWorks spreadsheet than (C7*C13) + (C8*E14) because operations are evaluated left to right without regard to hierarchy - unless there are parentheses.

Source:

Morris, J. "Foxy Fred," How to Develop Problem Solving Using a Calculator. Reston, Virginia: National Council of Teachers of Mathematics, 1984.

NAME: _____ DATE: _____

FRED'S FAST FRIES

Foxy Fred has offered you a partnership in his business, Foxy Fred's Fast Fries and Floats. The offer is that you run FFFF&F, but pay him a share based on how much the business makes. His share is to be a percentage equal to the number of hundreds of dollars of income. Should you accept his offer?

1) The answer to the question depends upon how much money FFFF&F makes. Use a calculator and complete the table below:

INCOME	FRED'S %	FRED'S SHARE	YOUR SHARE
$100.00	1%	$1.00	$99.00
$500.00			
$1200.00			
$2500.00			
$5000.00			
$6500.00			

2) What would happen if the income from FFFF&F was more than $10,000?

_____

In order to analyze this situation further you are going to complete a spreadsheet that uses all of the relationships in the problem. It is called FOXY FRED and it has been started for you. Load it. The table is set up, but the formulas that define the computation have not been entered. That is your job. Notice that you will be able to vary the problem by changing FRED'S FACTOR, the amount that determines his percentage:

Fred's share is a percentage equal to the

number of _____ 100's of dollars.

<FRED'S FACTOR>

It will be your job to define the relationships you used in calculating the results above and then to enter them into the spreadsheet.

For example:

FRED'S % = INCOME / FRED'S FACTOR

Since the amount of INCOME is in cell A12 and FRED'S FACTOR is in cell C5 this formula will be entered into the SS as:

+A12 / C5

Enter the formula in cell B12 in the spreadsheet.

3) Use this table to define the other relationships in the problem. Use the entries for FRED'S % as an example:

	Formula is in Cell	Word Formula	SS Formula
FRED'S %	B12	INCOME / FRED'S FACTOR	+A12 / C5
FRED'S SHARE			
YOUR SHARE			

4) Once you have entered all of the formulas in the spreadsheet, check your work by entering each INCOME from the table in problem (1). Correct any errors you find.

5) A graph may be helpful to better understand Foxy Fred's offer. Move the cursor to cell G4. You will find a table of values that you can graph. Make a graph comparing both Fred's share and your share vertically against FFFF&F's income horizontally. Describe what happens as the level of income rises and explain the significance of the point where your line and Fred's line meet.

6) What if Fred's Factor were different?

a) Suppose Fred's percentage is equal to the number of fifties of dollars of income. Change Fred's Factor in the spreadsheet and analyze the situation again. Make a graph for Fred's Factor = 50.

b) Compare and contrast the results with those for Fred's Factor = 100.

7) Select your own value for Fred's Factor. Enter it in the spreadsheet and repeat problem (6).

NAME: _____ DATE: _____

CAR COSTS

Can you really afford the car you want? The costs of owning a car go well beyond the monthly payments. There are gas and oil, normal maintenance and repair, insurance, tolls and parking, and the car's license. It pays to consider all these costs before you buy.

1) The table below presents an example of the costs involved in owning and operating a car. Take out your calculator and complete the table.

A	B	C	D	E	F	G
1		C O S T I N G I T O U T				
2						
3						
4	Total		Down		Estimated Number	
5	Purchase Price:	$ 7850	Payment $	1000	of Miles per Year:	10,000
6						
7						
8						
9		Expense		Monthly	Annually	Annual Cost/Mile
10						
11		payment		127.50		
12		gas/oil		35.00		
13		maintenance/repairs		30.00		
14		insurance			630.00	
15		parking/tolls		12.00		
16		license			65.00	
17						
18			Totals			

2) **RESEARCH** - With a partner, identify three (3) different cars you would like to own.

a) Visit a car dealership or use newspaper ads to find the total purchase price of each of your cars and the amount of the monthly payment required to purchase each.

b) Determine the monthly or annual costs associated with the other expenses listed in the table for each of your cars.

c) List the costs below:

A COSTING IT OUT speadsheet is designed to help you analyze the costs of owning and operating a car. It is not quite ready to use, though. None of the formulas that will do the computation have been entered. That is your job.

Let's use the cost of gas and oil as an example to help you get started. When you did the computation you used the fact that the:

ANNUAL COST OF GAS/OIL = MONTHLY COST * 12

When you enter the formula into the spreadsheet, your formula must refer to the location of the MONTHLY COST, that is, to cell C12:

+C12 * 12

This formula is entered in cell E12 as suggested in the table. The formulas for the other annual costs are similar. They differ only in terms of the location of the other monthly costs.

3) Follow the example in the table below for the ANNUAL COST OF GAS/OIL and write a formula for each of the other relations.

	FORMULA IS IN CELL	WORD FORMULA	SS FORMULA
ANNUAL COST OF GAS/OIL	E12	MONTHLY COST * 12	+C12 * 12
ANNUAL COST/MILE OF LICENSE			
TOTAL MONTHLY COSTS			

4) Load the COSTING IT OUT file and enter the formulas.

5) Check your work by entering the original set of costs given in problem 1. Correct any mistakes you fihd.

6) Use your spreadsheet to analyze the costs of each of the three cars you identified in problem 2. Write a short summary of your results.

NAME: _____

DATE: _____

BASKETBALL STATS

"How did your team do, coach?" With a little help from you, the coach will be able to give some specific answers about her team's performance. You are going to explain how the values in the stat sheet are related and then use this explanation to create formulas and a spreadsheet that will make keeping track of the teams performance easy.

ASSUMPTIONS:

- ATT stands for attempted
  % stands for shooting percentage
  OFF stands for offensive; DEF for defensive
- Each SHOT MADE is worth two (2) points.
- Each FREETHROW MADE is worth one (1) point.
- Shooting percentage (%) is determined by the ratio of SHOTS MADE : SHOTS ATTEMPTED.

	A	B	C	D	E	F	G	H	I	J
1					BASKETBALL STATS					
2										
3			SHOTS			FREETHROWS		POINTS	REBOUNDS	
4	NAME	ATT	MADE	%	ATT	MADE	%		OFF	DEF
5	==========	======	======	======	======	======	======	======	======	======
6										
7	BONNELL		27	13		6	4		3	5
8	CAWDRY		10	5		5	2		18	22
9	COULOMBE		12	4		15	5		3	4
10	DIXON		28	15		12	7		6	7
11	HOGAN		12	7		10	4		12	10
12										
13	==========	======	======	======	======	======	======	======	======	======
14										
15	TEAM									

1) Complete the table.

The spreadsheet file you are going to complete is called BB STATS. Load it.

2) Now that you have done the arithmetic to complete the table in problem #1, you should have a good idea of how the entries in the table are related to one another. For example, to find the shooting % for Bonnell in cell D7, you use the formula:

SHOOTING % = SHOTS MADE / SHOTS ATT * 100

The number of shots that Bonnell made is located in cell C7 and the number of shots she attempted is in cell B7. This means that the formula you enter into the spreadsheet at D7 is:

+C7 / B7 * 100

Enter a similar formula for each of the other players.

3) a) Follow the example for SHOOTING % and write a formula for each of the other relations.

FORMULA IS IN CELL	WORD FORMULA	SS FORMULA
SHOOTING % D7	SHOTS MADE / SHOTS ATT * 100	+C7/B7*100
FREETHROW %		
POINTS		

b) Enter the formulas in the spreadsheet for all of the players and check your results on the front page.

4) Write formulas for the TEAM statistics and enter them in the spreadsheet. Show the formulas you used below:

5) The statistics for the second game of the season are given below. Enter these new values in your spreadsheet and prepare a complete summary of the game.

	SHOTS		FREETHROWS		REBOUNDS	
NAME	ATT	MADE	ATT	MADE	OFF	DEF
Bonnell	7	3	12	8	2	3
Cawdry	12	6	5	2	5	6
Coulombe	4	1	6	4	1	2
Dixon	15	8	7	4	3	5
Hogan	8	3	7	2	4	3

6) a) Identify two (2) other statistics based on the information in the table that would be helpful to the coach.

_____

_____

b) Add the formulas necessary to provide this information to the spreadsheet. Show your work below.

NAME: _____ DATE: _____

REMODELING

You have some work to do! Your apartment is a mess. The living room and bedroom need new carpet, the bathroom and kitchen need new linoleum, the baseboard molding needs to be replaced in all of the rooms, and all of the rooms need painting. The information you need to estimate the cost is laid out in the table:

ASSUMPTIONS:

- Baseboard molding costs $0.25 a foot to install.
- The linoleum you want is $18.50 per square yard installed.
- The carpeting will cost $22.50 per square yard installed.
- The walls in your apartment are 8 feet high.
- Your paint will cover 450 square feet per gallon. Each gallon costs $10.25. You will do the painting (just the walls).

1) Take out your calculator and complete the table. Like the other spreadsheet tables you have used, the values in this one are all interrelated. For example, the COST OF CARPET for the Living Room in cell B12 depends on the AREA of the room in cell B10. You use the formula:

COST OF CARPET = AREA / 9 * 22.50

You divide the AREA by 9 because there are 9 square feet in 1 square yard. The $22.50 is the cost of one square yard of carpet. The area of the living room is in cell B10, so the formula you enter into the spreadsheet is:

+B10 / 9 * 22.50

There will be a similar formula for each of the other rooms that need carpeting. The formulas will vary only in terms of the location of the area of each room in the spreadsheet.

2) a) Follow the example in the table for COST OF CARPET and write a formula for each of the other costs.

	FORMULA IS IN CELL	WORD FORMULA	SS FORMULA
COST OF CARPET	B12	AREA / 9 * 22.50	+B10/9*22.50
COST OF MOLDING			
COST OF PAINT			
COST OF LINOLEUM			

b) LOAD the REMODEL spreadsheet file and enter the formula for each expense in the appropriate cells in the spreadsheet.

3) Write the formulas for the TOTALS and the TOTAL COST and enter them in the spreadsheet. Show the formulas you used below.

4) Suppose you decide on a carpet that costs $25.40 a square yard. Modify the spreadsheet to reflect this change.

TOTAL COST: $_____

5) Your neighbor is so impressed with your work that she wants to use your spreadsheet to analyze the cost of remodeling her apartment. The dimensions of her rooms are:

	LIVING ROOM	KITCHEN	BATHROOM	BEDROOM
LENGTH	18	12	11	15
WIDTH	14	9	8	10

The carpeting she has selected costs $18.40 per square yard and the linoleum $7.42 per square yard. She can get the paint she needs for $9.50 a gallon.

Modify your spreadsheet and give her an estimate of the TOTAL COST of remodeling.

TOTAL COST: $_____

6) a) Suggest at least two (2) changes you would make in the spreadsheet to make it easier to use.

_____

_____

b) Make the changes you suggested. Prepare an example to demonstrate how your changes improve the spreadsheet.

LESSON 10

CREATING A SPREADSHEET MODEL

A spreadsheet model can be created for any situation where there are precisely defined numerical relations. These relations are expressed in terms of formulas. The summary statistics in the BB STATS spreadsheet provide a simple example. The total number of rebounds is represented as the sum of the offensive and defensive rebounds; the total number of points as two times the number of baskets made (2 points per basket) plus the number of free throws made (1 point per free throw).

A teacher's gradebook is another example. This typically involves totaling scores for each student and dividing by the number of points possible to produce a percentage score. This lesson presents a sample problem and a model for developing a spreadsheet as a small group project.

Number of Class Periods: 4-5

Creating a spreadsheet involves the following basic steps. Like the creation of a database, the majority of these steps are conceptual and do not involve the mechanical skills required to operate the spreadsheet program:

1) Define the problem situation and identify questions that need to be addressed.

2) Identify the factors important to the analysis of the situation.

3) Identify which data are entered values and which are computed values.

4) Define how variable values are related to other values in the problem.

5) Build formulas based on these relations.

6) Create the spreadsheet model.

7) Use the model and report results.

EXAMPLE

The following example illustrates the process outlined above, but probably not one you will want to use in class. Let the class pick their own problem. Possible topics include personal budgets, personal gradebooks, workout schedules, or club budgets. The most important aspect of the modeling process is that you work together with your students creating a project of mutual interest.

1) DEFINE THE PROBLEM.

During the next term students in my Algebra I class will have 20 homework assignments and 3 tests. Each homework assignment will be worth 10 points and each test, 100. I would like to be able to provide students with a running account of their grades, the average score on each assignment, and the overall class average.

2) IMPORTANT FACTORS:

student names
homework scores
test scores
number of students
number of points possible
average score on each assignment
individual student grades
overall class average

3)

ENTERED	or	COMPUTED VALUE
student names		
homework scores		average score on each assignment
test scores		
number of students		individual student grades
number of points possible		overall class average

4) DEFINE THE RELATIONSHIPS.

Write "word formulas."

- average score on each assignment =

  sum of individual scores / # of scores

- individual student grades =

  sum of scores on each assignment and test
  number of points possible

- overall class average =

  sum of individual scores / # of students

5) ORGANIZE THE TABLE.

For students working in groups of two or three, this activity is best done at a blackboard or on a large sheet of butcher paper where the whole group

has easy access to the information and changes can be conveniently made. Emphasize the importance of working with "word formulas" first. Understanding is much easier if done in language as English-like as possible.

An overhead slide with a table similar to the following example is useful for class demonstration. Enter a small set of sample data to test the model to ensure that students understand how the relationships defined in the formulas apply.

	A	B	...	U	V	W	X	Y
1	NAME	S1	...	S20	T1	T2	T3	GRADE
2	==========	==========	==========	==========	==========	==========	==========	==========
3	POSSIBLE	10	...	10	100	100		400
4								
5	Smith	9	...	8	76	82		
6	Jones	10	...	7	78	80		
7	Allison	9		5	85	88		
8	Thomas	7		6	99	90		
9	Sandoval		...	9	81	70		
10	Hughes	10	...	8	89	64		
11	Anderson	9	...	6	80	65		
12								
13	Average							

sample spreadsheet formulas -

- average score on assignment S1 in cell B13

  @AVG(B5...B11)

- Smith's cumulative grade in cell Y5

  @SUM(B5...X5) / @SUM(B3...X3)

- average class grade in cell Y13

  AVG(Y5...Y11)

6) USE THE MODEL.

Once the spreadsheet is created; give students the chance to work with the problem and explore possible elaborations of the model based on hypothetical "What if..?" questions. For example, "What if Smith scores 80 or 85 or 90 on the last test?" "What if Sandoval makes up the homework assignment she missed?" The accuracy of the model can be assessed at this point and it can be

determined if it is sufficient to do the job originally described.

POSSIBLE PROJECTS

- a personal gradebook
- an inventroy management file for the student store
- a stat sheet for an athletic team
- a balance sheet for a club or organization
- an inventory of a personal collection (coins, stamps, records, etc.)
- a personal budget

LESSON 11

THE CLIPBOARD

At this point your students are becoming comfortable with the basic operations of the individual data management tools. The last step will be to integrate the report generating capabilities of each program so that pieces of word processing files can be merged from one file into another or database and spreadsheet reports can be made part of word processor files. In each case, students will make use of the "clipboard," a portion of the computer's memory which temporarily stores a piece "cut" from one file before it is "pasted" into another.

Several practice activities are included that require cutting and pasting between word processor and conversion of database and spreadsheet reports into word processor files.

Number of Class Periods: 2-3

Worksheets

Cut and Paste

Student AppleWorks Files

Christmas List (WP)
Cut and Paste (WP)
Cars (DB)
Costing It Out (SS)

Reference Sheet

Clipboard

Overhead Transparencies

52 - 54

Objectives

Students will be able to explain or demonstrate the following:

Terms:

- clipboard
- text file

Concepts:

- cut
- paste

Facts:

- Portions of word processor files are moved to and from the clipboard using OPEN APPLE M.
- Database and spreadsheet files must be printed to the clipboard as text files using OPEN APPLE P.

- Use OPEN APPLE Q to move quickly from one file on the desktop to another.

Students will demonstrate skill at:

- cutting a portion from one word processor file and pasting it into another
- printing database and spreadsheet files to the clipboard and pasting them into word processor files

Students will demonstrate their ability to integrate AppleWorks functions by completing a word processed report summarizing their class database or spreadsheet projects.

Activity 11.1 - Discussion & Demonstration

Materials:

- transparencies 52-54
- copies of the "Clipboard" reference sheet for each student (see p. 149)

Transfer of text from one word processor file to another is basically the same as moving text within one file. Transparencies 51-54 provide an example that highlights the use of the clipboard as a temporary holding file used while you switch from one file to the other. Students can follow the procedure through the example in the "Clipboard" reference sheet.

Carefully review the steps in creating both a database and a spreadsheet report. The same steps are followed in transferring copies of these reports to a word processor file except that they are printed to the clipboard instead of the screen or the printer. Once on the clipboard, the reports are moved into the word processor file and edited as text.

Activity 11.2 - Cut & Paste

Materials:

- copies of "Cut & Paste" worksheet for each student (see pp. 135-136 or TEACHER disk)
- copies of the "Clipboard" reference sheet for each student (see p. 149)

The "Cut & Paste" worksheet provides drill and practice in using the clipboard. If additional practice is needed, particularly in transferring database and

spreadsheet reports, make-up problems using the files available on the STUDENT data disk.

Activity 11.3 - Final Project

Have students prepare a word processed report summarizing their conclusions from either the database or spreadsheet projects. Appropriate database or spreadsheet reports should be included to support their arguments.

Activity 11.4 - Quiz

Materials:

- QUIZ3 on the TEACHER data disk (see pp. 165-168 for answer key)

QUIZ3 on the TEACHER'S data disk includes questions related to use of the spreadsheet and AppleWorks formulas and functions. Prepare copies for class use as before by deleting questions from those in the file, adding any of your own, numbering questions, and paginating.

NAME: _____ DATE: _____

CUT & PASTE

HANDY REFERENCE SHEETS.....WORD PROCESSING
DATABASE OPERATIONS
SPREADSHEET OPERATIONS
CLIPBOARD

KEYS TO REMEMBER

OPEN APPLE C.....copy text to and from the clipboard
OPEN APPLE M.....move text to and from the clipboard
OPEN APPLE Q...move quickly from one desktop file to another
OPEN APPLE P.....print a report

---

1) You will be working with several files as part of this activity. Add these files onto the desktop now so that they are ready when you need them:

   CUT & PASTE (WP)
   CHRISTMAS LIST (WP)
   CARS (DB)
   COSTING IT OUT (SS)

2) CHRISTMAS LIST is a form letter to Santa Claus. You are going to cut parts from it and paste them together to make your own letter.

   a) Use OPEN APPLE Q to switch the CHRISTMAS LIST file into the workspace.

   b) Let's start with the greeting. Move the cursor to the one you want in your letter. Press OPEN APPLE C to copy. Highlight the **"To clipboard (cut)"** option.

   c) Highlight the greeting and press RETURN.

   d) The text is now cut from CHRISTMAS LIST and stored temporarily on the clipboard.

   e) Switch to CUT & PASTE using OPEN APPLE Q.

   f) Now use OPEN APPLE M to move the greeting **from the clipboard** and paste it into CUT & PASTE:

   g) Repeat this process, cutting and pasting a self appraisal, the items from the list that you want (fill in the blanks), and a salutation.

Cutting and pasting a database report or a spreadsheet file is somewhat different than working with a word processor file. You must first print a copy of the report to the clipboard using OPEN APPLE P. You can then move the report from the clipboard as you did with the word processor files.

3) Switch to the CARS database.

a) Create a report for cars with a suggested price greater than $30,000. Include the manufacturer, model, year, mpg, and suggested price in the report. Arrange the cars in order of price from highest to lowest.

b) Use OPEN APPLE P to print a copy of the report to **"The clipboard (for the Word Processor)."**

c) Switch back to CUT & PASTE and move the report from the clipboard as you did with the text from the word processor files.

4) a) Switch to the COSTING IT OUT spreadsheet file. Identify the most expensive car from your CARS database report and enter estimates of the monthly/annual expenses.

b) Use OPEN APPLE P to print a copy of the file. Remember that you are going to print the spreadsheet to **"The clipboard (for the Word Processor)."**

c) Switch back to CUT & PASTE and move the spreadsheet file from the clipboard and into the word processor file.

5) Save and print a copy of CUT AND PASTE to turn in.

Reference Sheets

GETTING STARTED

REFERENCE SHEET

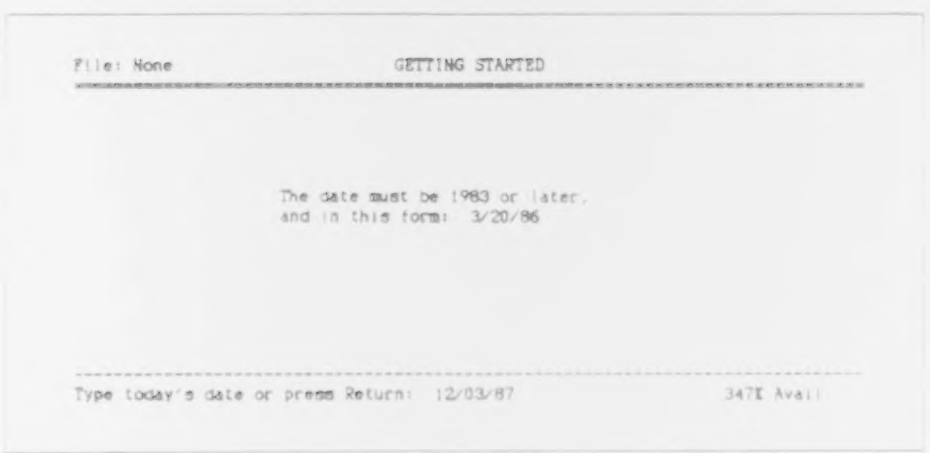
1) Put the STARTUP disk in disk drive #1 (the internal drive on the IIc).

2) Put your data disk in disk drive #2 (the external drive on the IIc).

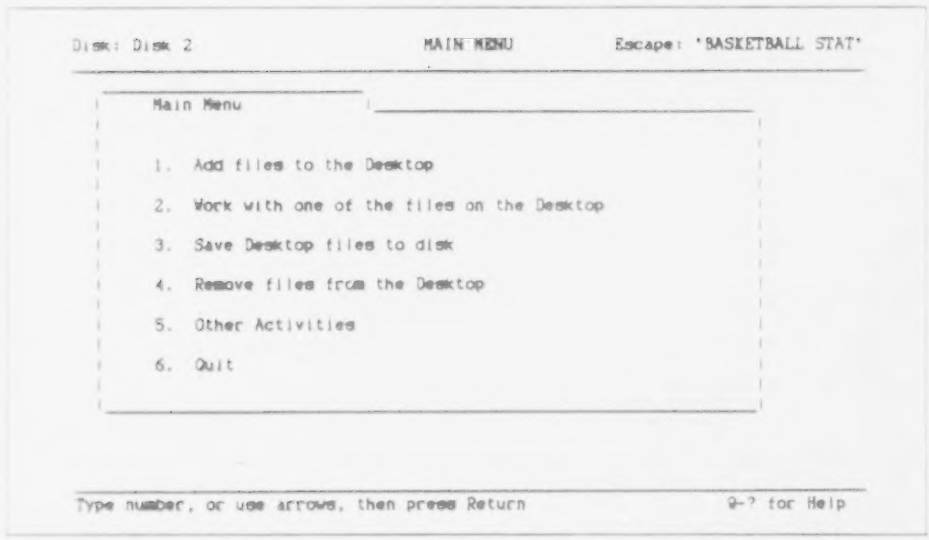
3) Turn on the computer and the monitor.

4) Replace the STARTUP disk with the PROGRAM disk as instructed on the command line:

5) Correct the date on the command line and press the RETURN key:


File: None
GETTING STARTED
The date must be 1983 or later,
and in this form: 3/20/86
Type today's date or press Return: 12/03/87
347K Avail

6) Select the menu option that is highlighted by pressing the RETURN key. You can now "Add files to the Desktop".


Disk: Disk 2
MAIN MENU
Escape: 'BASKETBALL STAT'
Main Menu
1. Add files to the Desktop
2. Work with one of the files on the Desktop
3. Save Desktop files to disk
4. Remove files from the Desktop
5. Other Activities
6. Quit
Type number, or use arrows, then press Return
@-? for Help

7) Add a file:

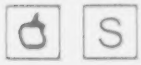
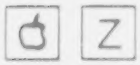
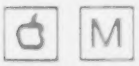
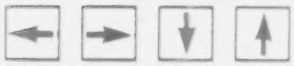
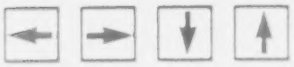
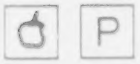
- Select to get a file from "The current disk: Drive 2".
- Load the file using the arrow keys to select from the files listed on the menu.

OR

- Select to make a new file for the Word Processor, Data Base, or Spreadsheet
- Type the name of the new file on the command line and press the RETURN key

WORD PROCESSING

REFERENCE SHEET

TO...	USE...	AND...
INSERT new text		○ move to the new position and start typing
SAVE your file		
ZOOM in or out on your file		○ see the printing options
DELETE a block		○ highlight the block with the arrow keys <RETURN>
MOVE a block of text		○ select "Within Document" <RETURN>
		○ highlight the text you want to move <RETURN>
		○ move the cursor to the new location <RETURN>
PRINT your file		○ adjust printer options if desired. See PRINTING OPTIONS REFERENCE SHEET ○ adjust the paper and turn on the printer <RETURN> ○ select "Print from the Beginning" <RETURN> ○ enter the number of copies <RETURN>

WORD PROCESSOR PRINTING OPTIONS

REFERENCE SHEET

The menu of printing options in the table below is displayed when you press OPEN APPLE O. The following example shows how to use the table to set the Top Margin at 1 inch:

```
Option:   TM <RETURN>
Inches:   1  <RETURN>
```

PW=8.0 LM=1.0 RM=1.0 CI=10 CN PL=11.0 TM=1.0 BM=1.0 LI=6 SS

Option:			
	UJ: Unjustified	GB: Group Begin	BE: Boldface End
	CN: Centered	GE: Group End	+B: Superscript Beg
PW: Platten Width	PL: Paper Length	HE: Page Header	+E: Superscript End
LM: Left Margin	TM: Top Margin	FO: Page Footer	-B: Subscript Begin
RM: Right Margin	BM: Bottom Margin	SK: Skip Lines	-E: Subscript End
CI: Chars per Inch	LI: Lines per Inch	PN: Page Number	UB: Underline Begin
P1: Proportional-1	SS: Single Space	PE: Pause Each page	UE: Underline End
P2: Proportional-2	DS: Double Space	PH: Pause Here	PP: Print Page No.
IN: Indent	TS: Triple Space	SM: Set a Marker	EK: Enter Keyboard
JU: Justify	NP: New Page	BB: Boldface Begin	

TO PREPARE:

A REPORT -

	SET
--------Top Margin 1 inches	TM 1
--------Bottom Margin 1 inches	BM 1
--------Right Margin 1 inches	RM 1
--------Left Margin 1.5 inches	LM 1.5
--------Double space	DS
--------Centered	CN
<your title>	
--------Justified	JU

These settings give you 1 inch margins on the top, bottom, and right of your paper and 1.5 inches on the left. The title is centered and the text is double spaced and justified (or even on both the right and left margins.

TO PREPARE:

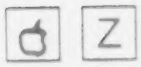
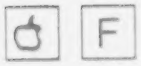
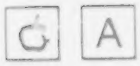
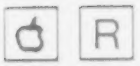
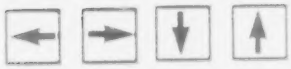
A 3 INCH NEWSPAPER COLUMN -

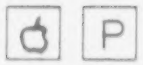
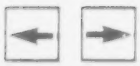
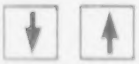
	SET
--------Top Margin 1 inches	TM 1
--------Bottom Margin 1 inches	BM 1
--------Left margin 1 inches	LM 1
--------Right Margin 4.5 inches	RM 4.5
--------Single Space	SS
--------Centered	CN
<your title>	
--------Unjustified	UJ

Remember that your paper is 8.5 inches wide. A total left and right margin of 1" + 4.5" = 5.5" leaves 3" of text. In addition, these settings provide for single spacing and unjustified text which means that only the left margin is even.

DATABASE OPERATIONS

REFERENCE SHEET

TO...	USE...	AND...
ZOOM in on one record or out on the whole file		
FIND specific information		o type the comparison information on the command line <RETURN>
ARRANGE records in a certain order		o move the cursor to the category you want sorted o select how to arrange <RETURN>
SELECT specific records according to a logical rule	  	o select a category <RETURN> o select a relation Choose from options 1-12 <RETURN> o type the comparison information on the command line <RETURN> o press ESC or add to your selection rule

TO...	USE...	AND...
PRINT a data base report		o select the "Create a new 'tables' format" option
		o type name for report on command line <RETURN>
		o move to any category you want to modify
		o change the width of a category
		o switch category position
		o delete, arrange, select records as needed for the report
		o print your report
		o select screen to test your format or the printer for a paper copy

CREATING A DATA BASE

REFERENCE SHEET

1) Select the "Make a new file for the Data Base" option on the ADD FILES menu. (Type 4 or use the arrow keys highlight #4 and press RETURN.)

2) Select #1 to make the new file FROM SCRATCH.

3) Enter the name of the file on the command line <RETURN>

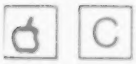
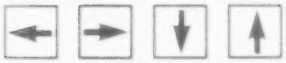
4) Delete "Category 1" on the left side of the screen using OPEN APPLE Y.

5) Enter the names of your categories. REMEMBER to press RETURN after each entry.

6) Press ESC after the last entry. Your data base is now defined and ready to accept data.

SPREADSHEET OPERATIONS

REFERENCE SHEET

TO...	USE...	AND...
ENTER a value, label, or formula		o move to the desired cell
	–	o make your entry
		REMEMBER - begin a:
		* label with a letter or a " * value with a number or a . * formula with +, -, (, or @
COPY from one cell to others		o select WITHIN WORKSHEET <RETURN>
		o highlight the copy-from cell(s) <RETURN>
		o highlight copy-to cell
		IF you are making one copy * press <RETURN>
		IF you are making several * press "." * highlight all cells * press <RETURN>
PRINT spreadsheet data		o select portion of the sheet to be printed - highlighting as necessary
		o select your printer
		o enter the date <RETURN>
		o enter # of copies <RETURN>

CLIPBOARD

REFERENCE SHEET

TO...	USE...	AND...
COPY portions of a word processor file to the clipboard	⌘ C	o select TO CLIPBOARD (CUT) <RETURN>
MOVE text from the clipboard to another word processor file	← → ↓ ↑	o highlight the text to be moved <RETURN>
	⌘ Q	o select the other file by highlighting with arrow keys or entering the number of the other file
	⌘ M	o select FROM CLIPBOARD (PASTE) <RETURN>
PRINT a data base or spreadsheet report to the clipboard	⌘ P	o create your report
	↓ ↑	o print your report to the clipboard (Select option 4)
	⌘ Q	o switch to a word processor file
	⌘ M	o paste the table into your text

Quizzes and Answer Keys

ClassWorks Quizzes

A quiz is provided following the introduction of each of the three AppleWorks tools. QUIZ1, QUIZ2, and QUIZ3 are stored as word processor files on the TEACHER data disk. The files are organized so that you can select questions from among those available on the disk, as well as add your own.

Questions are designed to measure student achievement of lesson objectives. Each is written in two or three different forms so that you can create multiple versions of each quiz. You will, therefore, need to load the file, select the desired questions, delete the others, and add any of your own. To give you the greatest possible flexibility in the use of the files, the text is not paginated in any way. Use OPEN APPLE K to calculate page breaks and the NP printer option to mark page breaks in the final version of a quiz. Please note that you must also number each of the questions you select.

A key for each of the quizzes is provided on the following pages. In cases where a variety of answers are possible, several examples are included. There may be otners!

NAME: Key

DATE: _____

QUIZ
GETTING STARTED & WORD PROCESSING

#) Match each of the following operations with the appropriate set of keys:

4	a) highlight a menu option	1) OPEN APPLE S
8	b) get the program to continue	2) OPEN APPLE ?
5	c) back up to your last step	3) OPEN APPLE M
9	d) erase the character to the left of the cursor	4) ARROWS
		5) ESC
2	e) get help	6) OPEN APPLE S
15	f) print the information on the screen (screen dump)	7) OPEN APPLE D
10	g) clear a line of text from the cursor to the end of the line	8) RETURN
		9) DELETE
7	h) delete text from the screen	10) OPEN APPLE Y
1	i) save a file on disk	11) OPEN APPLE E
3	j) move text around the screen	12) OPEN APPLE C
14	k) zoom in on the printer options	13) OPEN APPLE P
		14) OPEN APPLE Z
		15) OPEN APPLE H

#) Fill in the blanks:

a) You use the Open Apple M keys to move a block of text in the word processor.

b) When you are using the word processor, the OPEN APPLE D keys allow you to delete text.

c) In order to save the file with which you are working, you use the Open Apple S keys.

d) Help is available to you when you press the OPEN APPLE ? keys.

e) In order to print just the information displayed on the screen, you use the Open Apple H keys, not the Open Apple P keys.

f) Your position on the screen is marked by the cursor.

g) In order to get back to a previous step in using APPLEWORKS, you must press the ESC key.

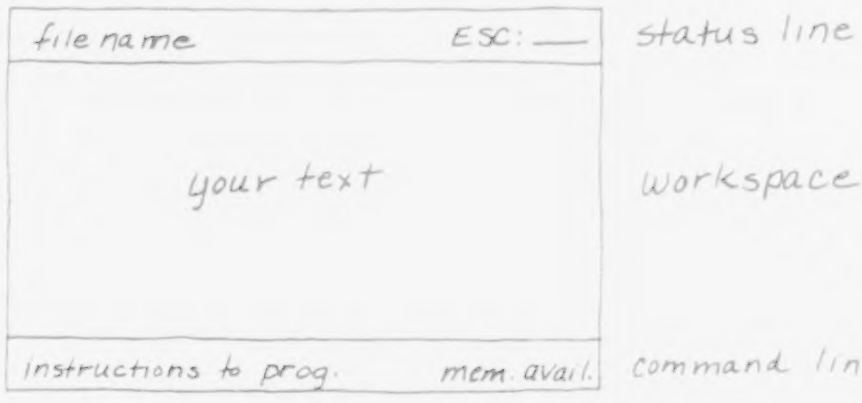
#) Give an example of the information you will find in each of the three parts of the APPLEWORKS display screen.

Status line: the name of your file, a description of what you are doing now, What will happen if you press ESC

Workspace: your text

Command line: an instruction to finish, the amount of memory available.

#) APPLEWORKS divides the display screen into three (3) parts. Draw a diagram of the screen. Label each part and briefly describe the type of information you will find there.



#) TRUE OR FALSE

F a) The APPLEWORKS program is stored on your DATA disk.

T b) When you first turn on the computer to use APPLEWORKS, the STARTUP disk must be in the disk drive.

T c) Menus offer program options that allow you to give instructions to APPLEWORKS.

F d) APPLEWORKS does not allow you to create a new file from scratch.

T e) The APPLEWORKS desktop is a portion of the computer's memory where the files with which you are working are stored.

#) Number the following steps from 1 to 6 so that they are in the correct order for getting APPLEWORKS started.

5 Correct the date on the command line and press RETURN.

1 Put the STARTUP disk in the disk drive.

6 Select the "Add files to the desktop" menu option.

4 Put the DATA disk in the second disk drive.

2 Turn on the computer and the monitor.

3 Put the PROGRAM disk in the disk drive.

#) List the steps that you must go through to get APPLEWORKS started.

#) Match each of these activities with the APPLEWORKS tool that would be most helpful in doing the job:

WP a) writing a report for your science class

DB b) keeping a day-to-day record of your assignments in each of your classes

SS c) keeping statistics for the volleyball team

SS d) managing your own budget

DB e) keeping a list of books you have read by title and author

WP f) writing a letter to your grandmother

WP : word processor

DB : data base

SS : spreadsheet

#) Identify two different jobs you could do with each of the three APPLEWORKS tools:

Word Processor writing reports, letters

Data Base making a record of a tape collection
making a recipe file

Spreadsheet Keeping my baseball statistics
Keeping a family budget

#) Define:

Word Processor: a tool for preparing and saving written material

Data Base: a tool for organizing information by various categories and then for finding specific information quickly

Spreadsheet:
a tool for doing computations quickly and for solving problems

#) Describe what to do in each situation. Be specific about the keys you use.

a) "I want to get back to the main menu."
Press the ESC key

b) "This paragraph belongs down here." use open APPLE M to indicate you want to move the text, highlight the paragraph using the arrow keys, and move the cursor to the new position & press return

c) "How do I get rid of this sentence?"
move the cursor to the beginning of the sentence, press open APPLE D, highlight the sentence with the arrow keys, and press RETURN

d) "I'm done! How do I save my report?"
Press open APPLE S

e) "Oops! I misspelled 'bycycle' back here."
move the cursor to cover the first "C", press DELETE, and type "i"

f) "I want to see how many spaces this paragraph is indented."
Press open APPLE Z to zoom in on the the formatting options.

NAME: _____

DATE: _____

QUIZ
DATA BASE ACTIVITIES

#) TRUE or FALSE

F a) A data base file is divided into categories which in turn are divided into records.

T b) OPEN APPLE F will allow you to find any piece of information in a data base file regardless of the category in which it is entered.

T c) In order to arrange a category of information chronologically, the word DATE must appear in the category name.

F d) OPEN APPLE S is used to select information from a data base file according to a rule you define.

F e) The layout of a data base file cannot be changed once it is originally defined.

F f) Use OPEN APPLE R to print a data base report.

#) Match each of the following operations with the appropriate set of keys:

6 a) sort a data base file

4 b) find a specific piece of information

3 c) print a data base report

1 d) change the layout of a data base file

5 e) define a data base selection rule

6 f) arrange records in a data base report

1) OPEN APPLE L
2) OPEN APPLE S
3) OPEN APPLE P
4) OPEN APPLE F
5) OPEN APPLE R
6) OPEN APPLE A
7) OPEN APPLE D
8) OPEN APPLE C

#) Fill in the blanks:

a) Use Open APPLE A to arrange the records in a data base file in a particular order.

b) OPEN APPLE R is used to define a selection rule.

c) OPEN APPLE L will allow you to change the layout of a data base file.

d) When you want to find a particular piece of information in a data base file, use OPEN APPLE F.

e) Open APPLE P is used to print a data base report.

#) Assume that you have a data base file which contains information about your coin collection.

Each record has these categories	You can use these relations	And you can expand your rules using
FACE VALUE ($)	equals	and
YEAR OF ISSUE	is greater than	or
MINTED IN (CITY)	is less than	through
DATE PURCHASED	is not equal to	
PURCHASED FROM	is blank	
COST	is not blank	
CONDITION	contains	
CURRENT VALUE ($)	begins with	
	ends with	
	does not contain	
	does not begin with	
	does not end with	

Write a selection rule that will allow you to answer each of these questions:

a) How many coins do I have that were minted in San Francisco?

selection: MINTED IN (CITY) equals San Francisco.

b) Do I have any coins that are currently worth more than $1000?

selection: CURRENT VALUE ($) is greater than 1000

c) Are any of my silver dollars worth more than $2000?

selection: FACE VALUE ($) equals 1 and
CURRENT VALUE ($) is greater than 2000

d) Who has been my biggest source of coins in the last 5 years? arrange (OPEN APPLE A) on the

selection: PURCHASED FROM category and count

e) Do I have any quarters or any dimes that were issued before 1920?

selection: FACE VALUE ($) equals .25 or
FACE VALUE ($) equals .10 and
YEAR OF ISSUE is less than 1920

#) Assume that you have a data base file which contains information about your coin collection.

Each record has these categories
==========

FACE VALUE ($)
YEAR OF ISSUE
MINTED IN (CITY)
DATE PURCHASED
PURCHASED FROM
COST
CONDITION
CURRENT VALUE ($)

Briefly describe the data base operations you would perform to answer each of the following questions:

a) What is the oldest coin in my collection?
Use OPEN APPLE A and arrange the records from lowest to highest in the YEAR OF ISSUE category

b) In what condition are most of my coins?

Arrange (OPEN APPLE A) the records alphabetically by CONDITION

c) What is the newest coin I have that was minted in New Orleans? Select all of the coins minted in New Orleans using the rule MINTED IN (CITY) equals New Orleans and then arrange them (OPEN APPLE A) by YEAR OF ISSUE

d) Which are generally my most valuable coins - the ones minted in Denver or the ones minted in Philadelphia?

Select (OPEN APPLE R) records with this rule:
MINTED IN (CITY) equals Denver or
MINTED IN (CITY) equals Philadelphia
and arrange (OPEN APPLE A) them alphabetically

e) Is it typically the case that old nickels are worth more today than old dimes?

Select records with this rule:
FACE VALUE ($) equals .05 or
FACE VALUE ($) equals .10
and arrange them numerically on CURRENT VALUE ($)

#) Assume that you have a data base which includes the following records of information about your coin collection:

NUMBER	FACE VALUE	YEAR OF ISSUE	MINTED IN	CURRENT VALUE
1	.01	1910	San Francisco	5.25
2	.05	1938	Philadelphia	3.75
3	.25	1950	Denver	.80
4	.05	1913	San Francisco	12.80
5	1.00	1898	New Orleans	25.50
6	.01	1929	Denver	9.80
7	.10	1919	Denver	8.75
8	1.00	1875	San Francisco	95.00
9	.50	1985	Philadelphia	.50
10	.05	1945	Denver	3.50

List by NUMBER the records that will be selected from the data base for each of these selection rules:

a) selection: YEAR OF ISSUE is less than 1920

1, 4, 5, 7

b) selection: MINTED IN equals San Francisco and FACE VALUE is greater than .05

8

c) selection: MINTED IN equals New Orleans
or MINTED IN equals Denver

3, 5, 6, 7, 10

d) selection: CURRENT VALUE equals 10.00
through CURRENT VALUE equals 25.00

4

e) selection: YEAR OF ISSUE is less than 1930
and CURRENT VALUE is greater than 1000.00

none

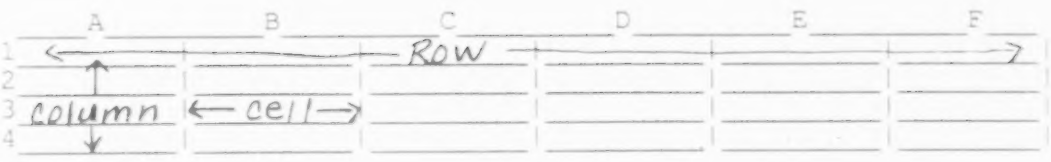
NAME: _____

DATE: _____

QUIZ
SPREADSHEET ACTIVITIES

#) Shade in and label an example of each of the following locations in this spreadsheet.

a) row b) column c) cell



#) Match these items based on their location in the spreadsheet.

3 a) A

4 b) 3

1 c) D3

1) cell
2) coordinate
3) column
4) row
5) function

#) Identify each of the following spreadsheet entries as a value (V), a label (L), or a formula (F):

L a) NAME

V b) 74

F c) @AVG(D7..D18)

V d) .05

F e) +C5/C6*100

F f) A4*A3 + A2

L g) ==========

L h) ".26

#) TRUE or FALSE

T a) Use OPEN APPLE C to copy the contents of one spreadsheet cell to another.

F b) To print a spreadsheet report, you must press OPEN APPLE R.

F c) Spreadsheet labels must begin with a number or a decimal point.

T d) @AVG(C2...C17) is an example of a spreadsheet formula.

T e) ADDRESS and ========== are both examples of spreadsheet labels.

F f) The label C6 + C7 will cause the sum of the contents of cells C6 and C7 to be displayed.

#) Write two examples each of legal spreadsheet entries:

LABEL NAME

AGE

VALUE 974

.05

FORMULA +A7 - A6

@ AVG (B3... B10)

#) Give the result of each of the formulas below based on the information in this spreadsheet:

	A	B	C	D
1	NAME	AT BAT	HITS	BATTING
2	SMITH	5	2	.400
3	MARSHALL	6	3	.500
4	ALLEN	4	1	.250
5		15	6	.400
6				.500

	FORMULA	IN CELL	RESULT
	=======	=======	======
a)	+C2/B2	D2	.400
	+C3/B3	D3	.500
	+C4/B4	D4	.250
b)	@SUM(B2...B4)	B5	15
	@SUM(C2...C4)	C5	6
c)	@MAX(D2...D4)	D6	.500
d)	+C5/B5	D5	.400

#) What if Allen had two hits instead of one? Cross out any affected values and enter the new results. Assume that the following formulas are entered in the indicated cells:

FORMULA	CELL
=======	====
+C2/B2	D2
+C3/B3	D3
+C4/B4	D4
@SUM(C2..C4)/@SUM(B2..B4)	D6

	A	B	C	D	
1	NAME	AT BAT	HITS	BATTING	
2	SMITH	5	2	.400	
3	MARSHALL	6	3	.500	
4	ALLEN	4	2	~~.250~~ .500	
5					
6				~~.385~~ .467	

#) Explain how you would use the spreadsheet to answer each of the following questions:

	A	B	C	D
1	NAME	AT BAT	HITS	
2	SMITH	5	2	
3	MARSHALL	6	3	
4	ALLEN	4	1	
5				
6				

a) What is Smith's batting average (a batting average is determined by dividing the number of hits by the number of times at bat)?

Put the formula +C2/B2 in cell D2

b) What is the team's overall batting average?

Put the formulas @sum (B2...B4) and @sum(C2...C4) in cells B6 and C6 and then put the formula +C6/B6 in cell D6

Overhead Transparency Masters

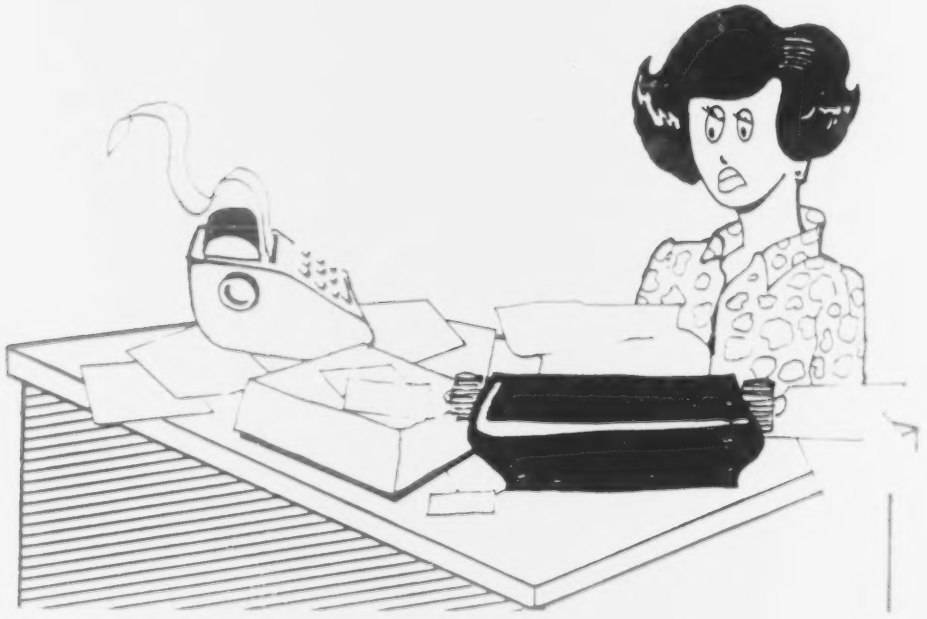
OVERHEAD TRANSPARENCY MASTERS

Fifty-four overhead transparency masters are included in ClassWorks to enhance large group presentations. Each lesson plan specifies the transparencies that relate to particular lessons. In addition, an annotated script appears on the back of each master.

The transparencies have been designed to be projected in their entirety from a distance of approximately 15-20 feet.

APPLEWORKS...

1) WORD PROCESSOR
2) DATA BASE
3) SPREADSHEET



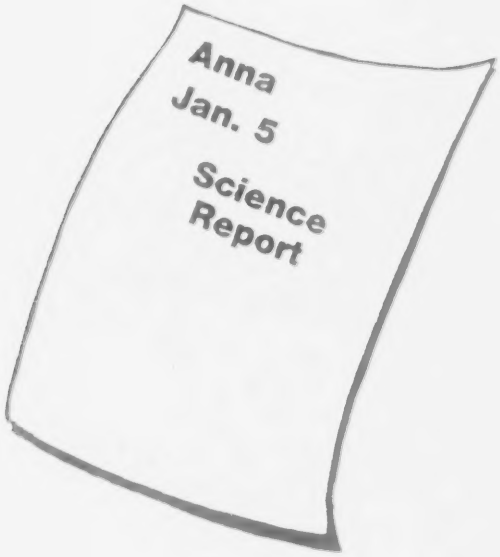
... A 3-IN-1 TOOL

SLIDE #1:

- APPLEWORKS IS LIKE HAVING A TYPEWRITER, A FILING DRAWER, AND A CALCULATOR COMBINED IN ONE TOOL ON YOUR DESKTOP

- IT PROVIDES THE USE OF EACH OF THESE THREE TOOLS IN ONE COMPUTER PROGRAM

WORD PROCESSOR...



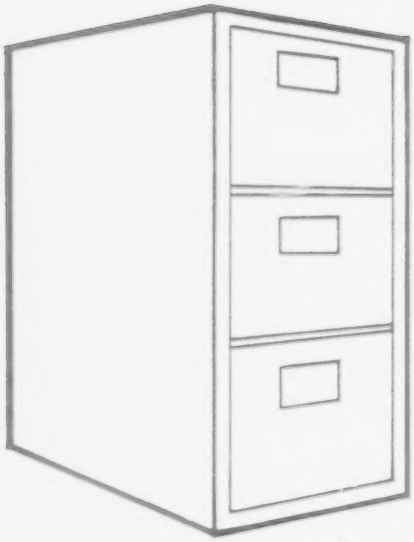
... TO COMPOSE & EDIT TEXT

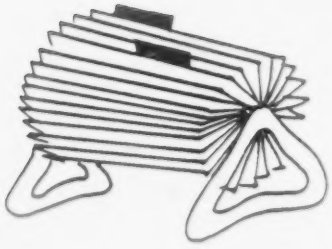
SLIDE #2:

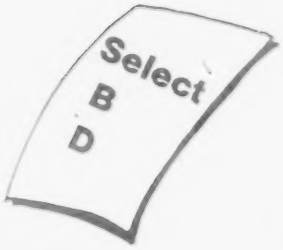
- A WORD PROCESSOR IS LIKE A TYPEWRITER THAT REMEMBERS WHAT YOU HAVE WRITTEN AND DISPLAYS IT ON A SCREEN. YOU CAN GO BACK AND CORRECT MISTAKES, INSERT NEW IDEAS, AND MOVE OR DELETE PORTIONS OF YOUR WORK

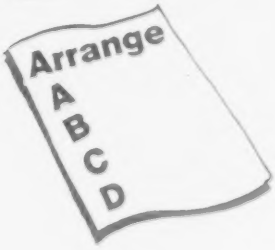
- YOU COULD USE A WORD PROCESSOR TO WRITE A LETTER OR PREPARE A REPORT FOR CLASS

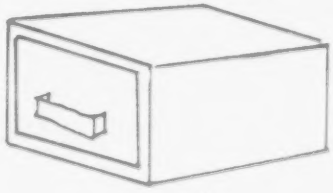
DATA BASE...











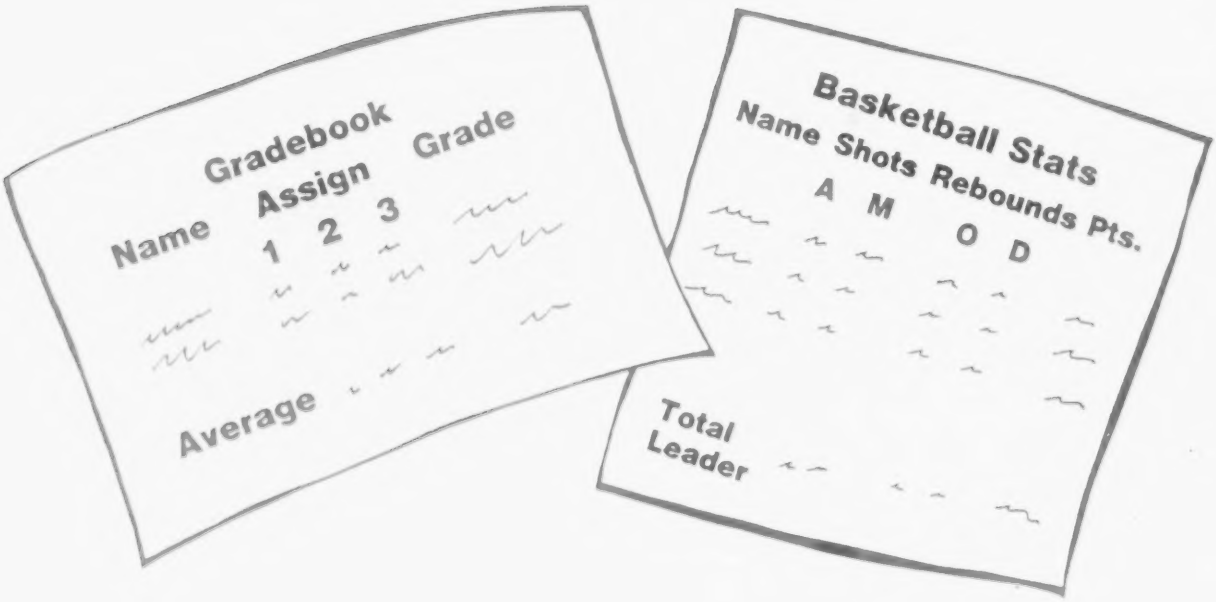
...TO STORE AND ORGANIZE DATA

SLIDE #3:

* A DATA BASE IS AN ELECTRONIC FILING CABINET OR CARD FILE

* IT ALLOWS YOU TO QUICKLY AND CONVENIENTLY FIND SPECIFIC INFORMATION, TO ARRANGE THE CONTENTS OF YOUR FILE IN A PARTICULAR ORDER, OR TO SELECT JUST THE RECORDS OF INFORMATION IN WHICH YOU ARE INTERESTED

SPREADSHEET...



...A "WHAT IF...?" CALCULATOR

SLIDE #4:

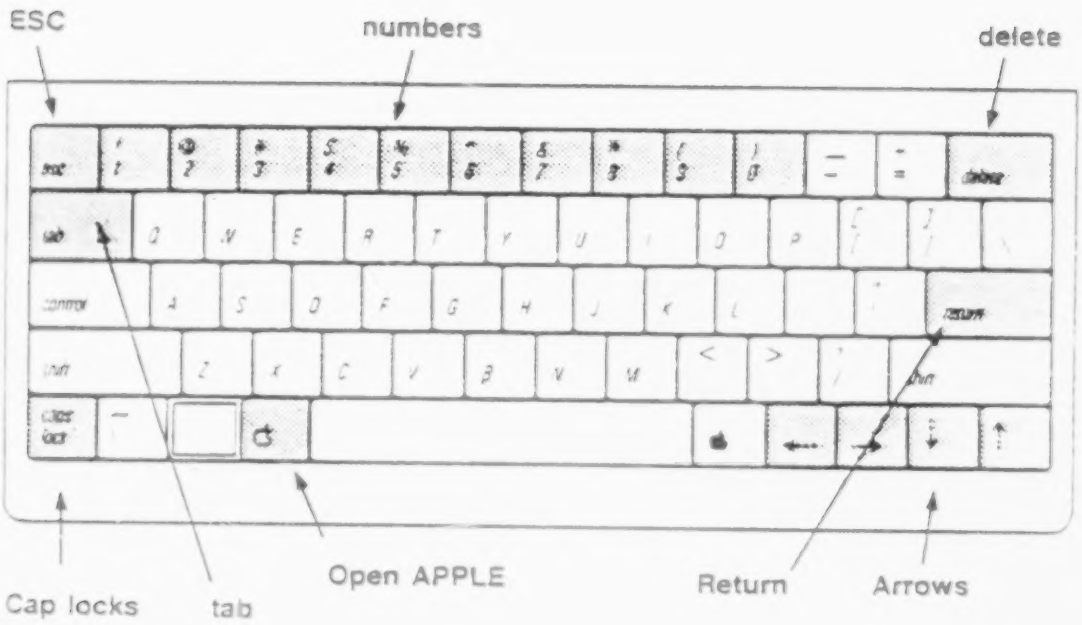
* A SPREADSHEET IS A CALCULATOR THAT YOU CAN USE TO MODEL THE RELATIONSHIPS IN A PROBLEM AND THEN USE TO ASK "WHAT IF.....?" QUESTIONS.

* FOR EXAMPLE: "WHAT IF I SCORE 90 ON THE LAST ASSIGNMENT? HOW WILL IT AFFECT MY GRADE AND THE CLASS AVERAGE?"

* OR: "WHAT IF I HAD MADE 3 MORE OF MY SHOTS IN THE LAST GAME? WHAT WOULD MY SHOOTING AVERAGE BE?"

*

THE KEYBOARD...

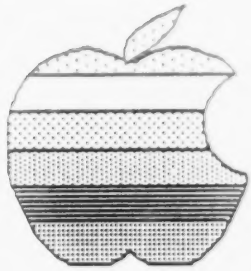


...TO TALK TO APPLEWORKS

SLIDE #5:

* RETURN- TELLS THE PROGRAM TO CONTINUE WHEN YOU ARE READY
* ARROWS- ALLOW YOU TO MOVE ABOUT THE SCREEN
* DELETE- ERASES THE CHARACTER IMMEDIATELY TO THE LEFT OF YOUR POSITION
* ESC- ALLOWS YOU TO BACK UP TO YOUR LAST STEP
* TAB- ALLOWS YOU TO MOVE MORE THAN ONE LOCATION AT A TIME
* CAPS LOCK- SETS UPPER OR LOWER CASE LETTERS
* OPEN APPLE- PROVIDES ACCESS TO SPECIAL APPLEWORKS FUNCTIONS
*

THE SCREEN...



STATUS LINE

WORKSPACE

COMMAND LINE

...APPLEWORKS TALKS TO YOU

SLIDE #6:

* THE APPLEWORKS SCREEN IS DIVIDED INTO THREE PARTS: STATUS LINE, WORKSPACE, AND COMMAND LINE

* THE STATUS LINE INDICATES THE FILE BEING USED, THE APPLEWORKS FUNCTION BEING PERFORMED, AND WHERE YOU WILL GO IF YOU BACK-UP A STEP

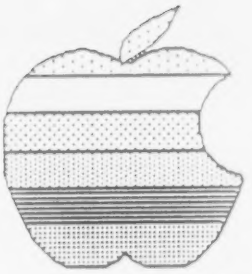
* THE WORKSPACE IS THE MAIN PART OF THE SCREEN AND IT DISPLAYS THE INFORMATION WITH WHICH YOU ARE WORKING

* THE COMMAND LINE IS WHERE YOU ARE TOLD WHAT TO DO NEXT AND WHERE YOU TYPE INSTRUCTIONS TO APPLEWORKS

* THE CURSOR MARKS YOUR LOCATION ON THE SCREEN

*

A MENU...



Disk: Drive 2 ADD FILES Escape: Main Menu

Main Menu

Add Files

Get files from:

1. The current disk: Drive 2
2. A different disk

Make a new file for the:

3. Word Processor
4. Data Base
5. Spreadsheet

Type number, or use arrows, then press RETURN 55K Avail.

... SELECT YOUR NEXT STEP

SLIDE #7:

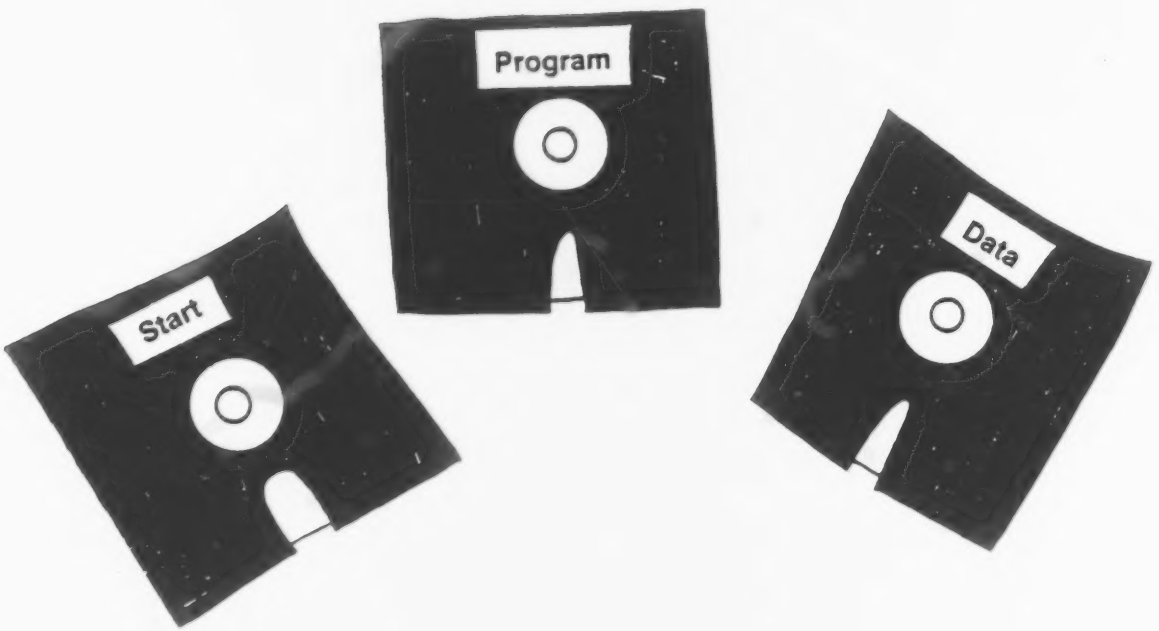
- EACH MENU HAS A TITLE WHICH IS INDICATED ON THE FLAP AND ON THE STATUS LINE

- MENUS ARE STACKED ONE ON TOP OF ANOTHER SO THAT YOU CAN SEE WHAT YOUR LAST STEP WAS. IN THIS CASE YOU COULD ESCAPE BACK TO THE MAIN MENU, THE ONE IMMEDIATELY BENEATH THE ADD FILES MENU IN THE STACK

- ALL MENU OPTIONS ARE NUMBERED SO THAT IN ADDITION TO SELECTING YOUR CHOICE WITH THE ARROW KEYS YOU COULD SIMPLY TYPE THE APPROPRIATE NUMBER

- NOTICE THAT EACH TIME A MENU IS PRESENTED THE AMOUNT OF MEMORY THAT IS AVAILABLE IS INDICATED ON THE COMMAND LINE IN THE LOWER RIGHT

GETTING STARTED...



...THE DISKS YOU WILL NEED

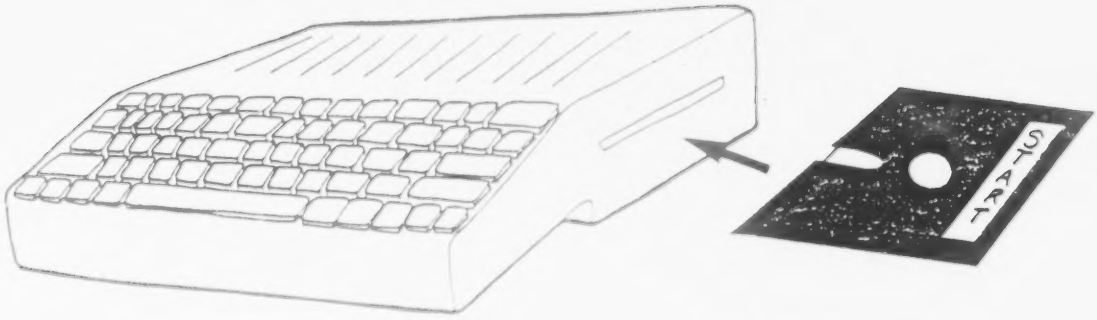
SLIDE #8:

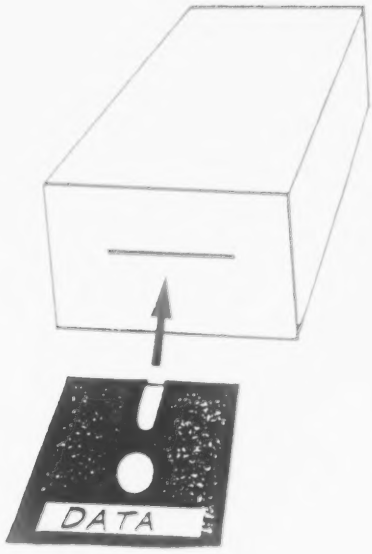
* START DISK- MUST BE IN THE DISK DRIVE WHEN YOU BEGIN TO USE APPLEWORKS

* PROGRAM DISK- YOU SWITCH TO THE PROGRAM DISK JUST AFTER YOU GET STARTED. IT HOLDS ALL OF THE INSTRUCTIONS FOR THE OPERATION OF THE PROGRAM

* DATA DISK- HOLDS ALL OF THE FILES THAT YOU CREATE OR USE. IT IS USUALLY PUT IN THE SECOND DISK DRIVE

FIRST STEPS...





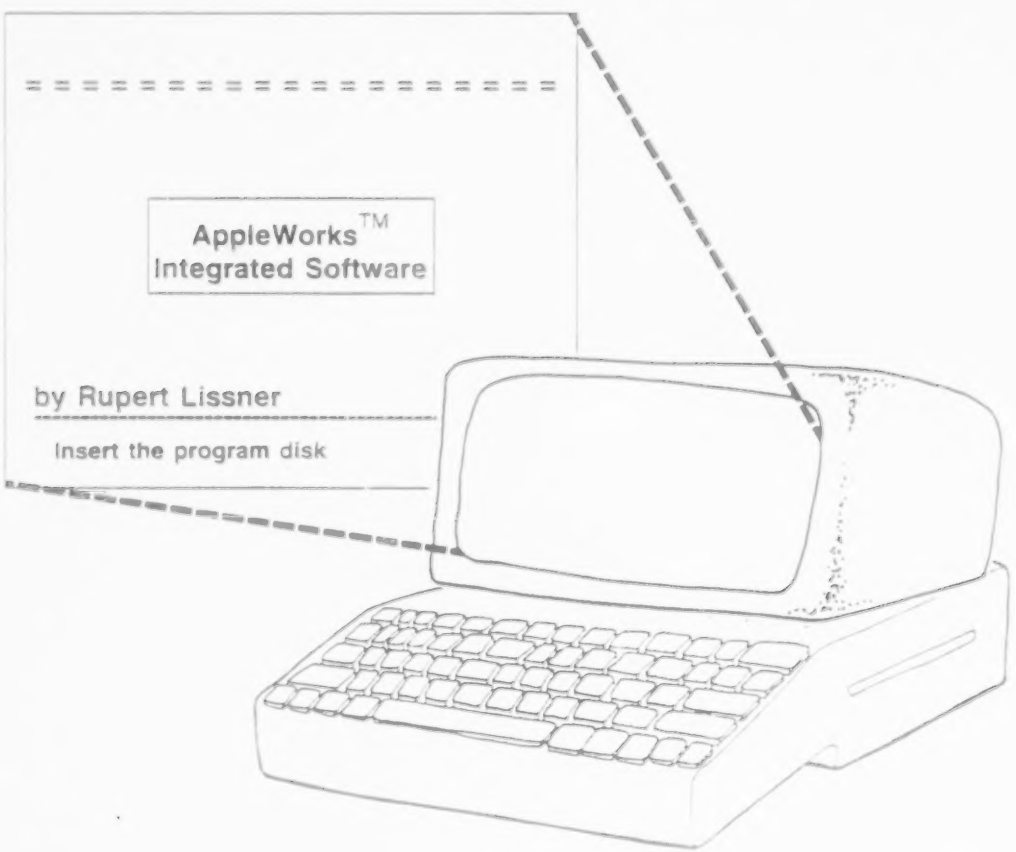
...PUT THE DISKS IN THE DISK DRIVES

SLIDE #9:

* INSERT THE DISKS BEFORE THE COMPUTER IS TURNED ON

*

TURN IT ON...



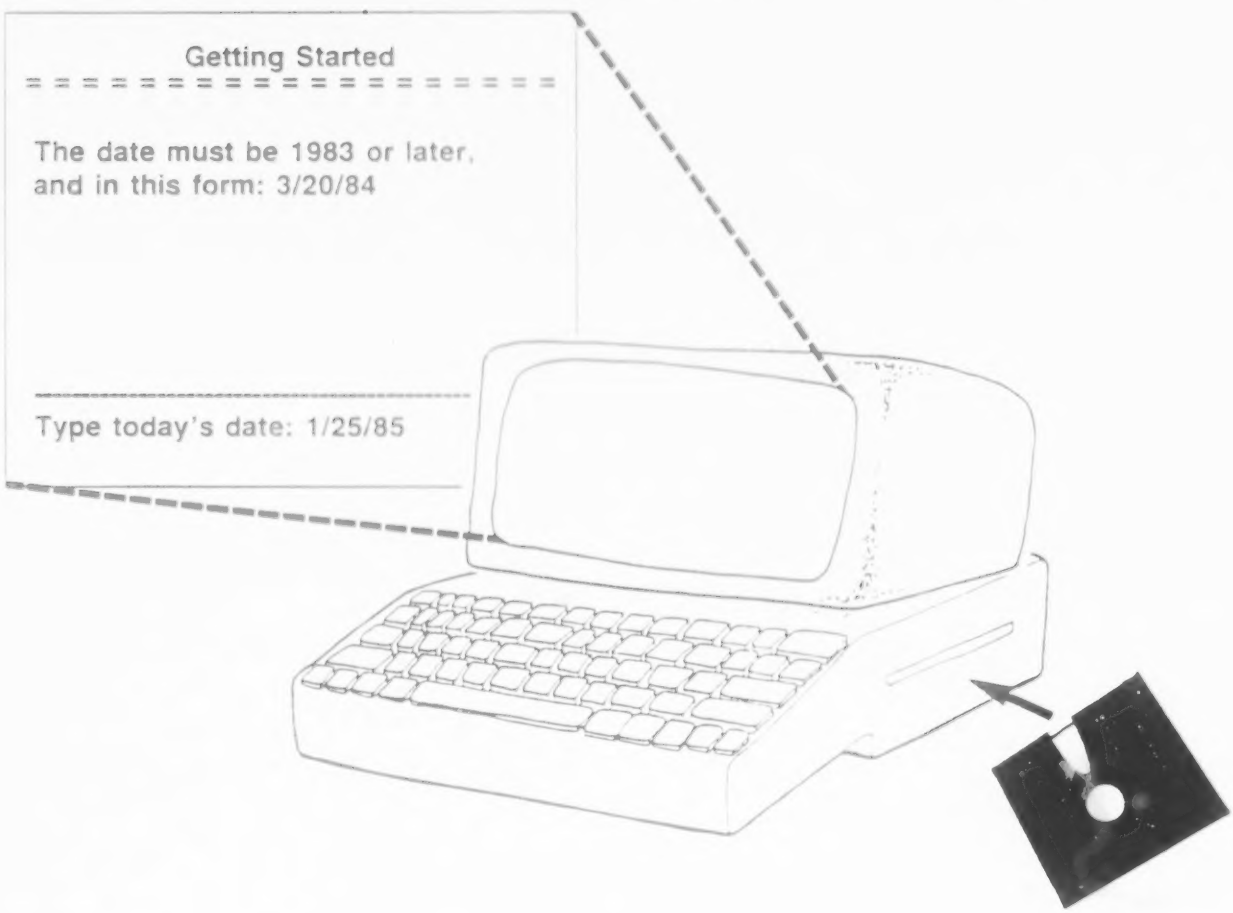
...LOOK AT THE COMMAND LINE

SLIDE #10:

- POINT OUT THE LOCATION OF EACH OF THE ON-OFF SWITCHES ON THE EQUIPMENT

- THE RED LIGHT ON THE DISK DRIVE INDICATED THAT THE DISK IS IN USE (INFORMATION IS EITHER BEING COPIED FROM IT TO THE COMPUTER'S MEMORY OR VICE-VERSA). DO NOT OPEN THE DOOR ON THE DRIVE WHEN THE LIGHT IS ON

PROGRAM DISK...



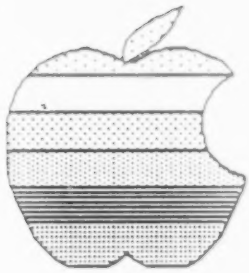
...FIX THE DATE & PRESS RETURN

SLIDE #11:

- AFTER THE TITLE SCREEN IS DISPLAYED REPLACE THE START DISK WITH THE PROGRAM DISK AND PRESS RETURN

- IT IS NOT NECESSARY TO RETYPE THE ENTIRE DATE. USE THE ARROWS TO MOVE THE CURSOR AND FIX ONLY THE NECESSARY NUMBERS

ALL SET...



Disk: Drive 2 MAIN MENU

Main Menu

1. **Add files to the Desktop**
2. **Work with one of the files** on the Desktop
3. **Save Desktop files to disk**
4. **Remove files** from the Desktop
5. **Other Activities**
6. **Quit**

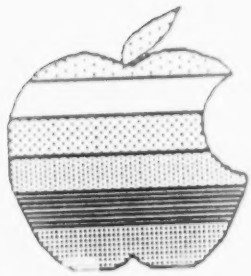
Type number, or use arrows, then press RETURN @-? for Help

...READY TO USE APPLEWORKS

SLIDE #12:

- ONCE THE MAIN MENU IS DISPLAYED, APPLEWORKS IS READY
- NORMALLY AT THIS POINT YOU WILL WANT TO ADD A NEW FILE TO THE DESKTOP. SIMPLY PRESS RETURN TO INDICATE THAT YOU CHOOSE THE MENU OPTION THAT IS HIGHLIGHTED (#1)

ADD A FILE...



Disk: DB EXAMPLE ADD FILES Escape: Main Menu

Main Menu

Add Files

Get files from:

1. The current disk: Drive 2
2. A different disk

Make a new file for the:

3. Word Processor
4. Data Base
5. Spreadsheet

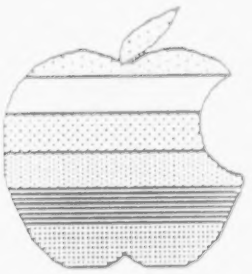
Type number, or use arrows, then press Return 55K Avail.

...TO THE DESKTOP

SLIDE #13:

- YOU HAVE A CHOICE. YOU CAN GET A FILE THAT HAS BEEN SAVED ON A DISK (NORMALLY THE CURRENT DISK), OR
- YOU CAN CREATE A NEW FILE FOR ANY OF THE THREE TOOLS
- USE THE ARROW KEYS AND THE RETURN KEY TO MAKE YOUR SELECTION

INSERTING TEXT...



File: overheads REVIEW / ADD / CHANGE Escape: Main Menu

INSERTING TEXT

Inserting new text in a word processor file is as easy as using the arrow keys to move the cursor to the new position.

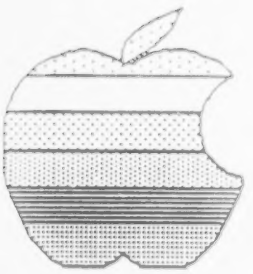
Type entry or use @ commands Line 7 column 56 @-? for Help

... POSITION THE CURSOR

SLIDE #14:

- WHEN YOU WANT TO ADD SOMETHING NEW TO WHAT YOU ARE WRITING, USE THE ARROW KEYS TO POSITION THE CURSOR AND START TYPING

INSERTING TEXT...



File: overheads REVIEW / ADD / CHANGE Escape: Main Menu

INSERTING TEXT

Inserting new text in a word processor file is as easy as using the arrow keys to move the cursor to the new position and starting to type.

Type entry or use @ commands Line 8 column 18 @ - ? for Help

... AND START TYPING

SLIDE #15:

- ONCE THE CURSOR IS IN THE RIGHT LOCATION, JUST START TYPING

DELETING TEXT...

File: overheads DELETE TEXT Escape: Review/Add/Change

DELETING TEXT

There will be times when you are writing that you decide that a portion of your work does not belong. You will want to delete what you have written.

Use the OPEN APPLE D command. The ARROW keys are used to highlight the block of text to be removed. Once highlighted, press the RETURN key and the text is erased.

55k Avail.

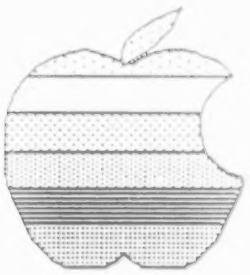
Use cursor moves to highlight block, then press Return

... HIGHLIGHT THE TEXT

SLIDE #16:

- USE THE ARROW KEYS TO POSITION THE CURSOR UNDER THE FIRST LETTER OF THE TEXT TO BE DELETED
- OPEN APPLE D GETS APPLEWORKS READY TO DELETE TEXT
- HIGHLIGHT THE TEXT YOU WANT TO REMOVE BY PRESSING THE APPROPRIATE ARROW KEYS
- USE THE DOWN ARROW TO HIGHLIGHT WHOLE LINES AT A TIME- YOU WILL HAVE TO PRESS THE LEFT ARROW KEY ONCE WHEN YOU ARE DONE TO KEEP FROM REMOVING THE FIRST CHARACTER ON THE NEXT LINE

DELETING TEXT...



File: overheads REVIEW/ADD/CHANGE Escape: Main Menu

DELETING TEXT

Use the OPEN APPLE D command. The ARROW keys are used to highlight the block of text to be removed. Once highlighted, press the RETURN key and the text is erased.

Type entry or use @ commands Line 20 Column 1 @-? for Help

... AND PRESS RETURN

SLIDE #17:

- ONCE THE TEXT THAT YOU WANT REMOVED IS HIGHLIGHTED, PRESS RETURN AND IT WILL BE ERASED

- REMEMBER- ANY TIME BEFORE PRESSING RETURN IF YOU DECIDE NOT TO DELETE, PRESS ESC TO BACK-UP

MOVING TEXT...

File: overheads REVIEW/ADD/CHANGE Escape: Main menu

MOVING TEXT

To move text within your paper place the cursor at the beginning of the text to be moved, press OPEN APPLE M, and go through these three steps.

1. Select the WITHIN DOCUMENT option on the command line.
2. Highlight the text you want to move and press RETURN.
3. Move the cursor to the new location and press RETURN.

What happens when your thoughts are out of order?

Move Text? Within document To Clipboard From Clipboard

... SELECT WITHIN DOCUMENT

SLIDE #18:

- WITH OPEN APPLE M YOU CAN MOVE A PART OF WHAT YOU HAVE WRITTEN

- FOR RIGHT NOW YOU WILL BE MOVING TEXT WITHIN ONE DOCUMENT LEARNING TO MOVE TEXT TO AND FROM THE CLIPBOARD TO COMBINE ALL OR PARTS OF DIFFERENT FILES WILL COME LATER

MOVING TEXT...

File: overheads MOVE TEXT Escape: Review/Add/Change

MOVING TEXT

To move text within your paper place the cursor at the beginning of the text to be moved, press OPEN APPLE M, and go through these three steps.

1. Select the WITHIN DOCUMENT option on the command line.
2. Highlight the text you want to move and press RETURN.
3. Move the cursor to the new location and press RETURN.

What happens when your thoughts are out of order?

Use cursor moves to highlight block, then press Return 55k Avail.

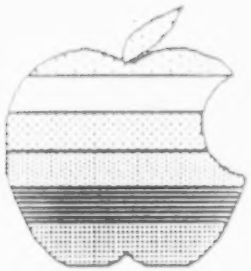
... HIGHLIGHT & PRESS RETURN

SLIDE #19:

- DOUBLE CHECK TO SEE THAT YOU HAVE HIGHLIGHTED ONLY THE PART YOU WANT MOVED- HIGHLIGHTING WHOLE LINES AT A TIME PICKS UP THE FIRST CHARACTER ON THE NEXT LINE TOO

- PRESS ESC ANY TIME BEFORE THE LAST STEP IF YOU DECIDE NOT TO MOVE

MOVING TEXT...



File: overheads MOVE TEXT Escape: Review/Add/Change

MOVING TEXT

What happens when your thoughts are out of order?

To move text within your paper place the cursor at the beginning of the text to be moved, press OPEN APPLE M, and go through these three steps.

1. Select the WITHIN DOCUMENT option on the command line.
2. Use the ARROW keys to highlight the text you want to move and press RETURN.
3. Use the ARROW keys to move the cursor to the new location and press RETURN.

Move cursor to new location, then press RETURN 55K Avail

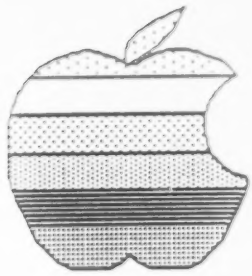
... POSITION THE CURSOR & PRESS RETURN

SLIDE #20:

- ONCE YOU MOVE THE CURSOR TO THE NEW POSITION AND PRESS RETURN, THE TEXT IS MOVED

-

ZOOM IN...



```
File: OVER          REVIEW / ADD / CHANGE          Escape: Main Menu

= = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = = =

----------Top Margin:  1.0 inches
----------Bottom Margin:  1.0 inches
----------Right Margin:  1.0 inches
----------Left Margin:  1.5 inches
----------Double Space
----------Centered
                              TITLE
----------Justified
  This text is now ready to be printed as a report on your printer.

                                   [ ] - [Z]

-------------------------------------------------------------------------
Type entry or use @ commands    Line 10  Column 24    @-? for Help
```

...TO SEE THE PRINTER OPTIONS

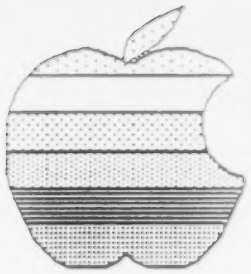
SLIDE #21:

- ZOOMING IN WITH OPEN APPLE Z ALLOWS YOU TO SEE ALL OF THE INSTRUCTIONS THAT YOU HAVE GIVEN THE PRINTER IN ORDER TO FORMAT YOUR PAPER THE WAY YOU WANT IT.

- PRESSING OPEN APPLE Z A SECOND TIME ZOOMS YOU BACK OUT SO ONLY THE TEXT IS DISPLAYED ON THE SCREEN

-

FORMATTING...



JUSTIFIED

This text is justified. The margins are even on both the right and left.

UNJUSTIFIED

This text is unjustified. Only the left margin is even.

CENTERED

This text is centered.
Each line is
centered on the
middle of the
column.

... JUSTIFIED, UNJUSTIFIED, & CENTERED

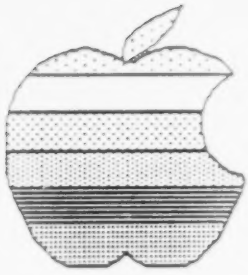
SLIDE #22:

- EACH OF THE THREE EXAMPLES ILLUSTRATE THE TERMS
- THINK OF EXAMPLES IN WHICH YOU WOULD WANT TO ORGANIZE YOUR WORK IN EACH WAY

E.G.- JUSTIFIED-
REPORT- IT LOOKS LIKE A BOOK

CENTERED-
TITLES- ANYWHERE IN A PAPER

YOUR OPTIONS...



File: EXAMPLE PRINTER OPTIONS Escape: Review/Add/Change

PW=8.0 LM=1.0 RM=1.0 CI=10 UJ PL=11.0 TM=0.0 BM=2.0 LI=6 SS

Option:	UJ: Unjustified	GB: Group Begin	BE: Boldface End
	CN: Centered	GE: Group End	+B: Superscript Beg
PW: Platen Width	PL: Paper Length	HE: Page Header	+E: Superscript End
LM: Left Margin	TM: Top Margin	FO: Page Footer	—B: Subscript Begin
RM: Right Margin	BM: Bottom Margin	SK: Skip Lines	—E: Subscript End
CI: Chars per Inch	LI: Lines per Inch	PN: Page Number	UB: Underline Begin
P1: Proportional-1	SS: Single Space	PE: Pause Each Page	UE: Underline End
P2: Proportional-2	DS: Double Space	PH: Pause Here	PP: Print Page No.
IN: Indent	TS: Triple Space	SM: Set a Marker	EK: Enter Keyboard
JU: Justified	NP: New Page	BB: Boldface Begin	

... OPEN APPLE O

SLIDE #23:

- MOST OF THE OPTIONS YOU WILL EVER USE ARE IN THE BOTTOM OF THE FIRST COLUMN AND IN THE SECOND COLUMN

- CURRENT VALUES OF THE MOST COMMON PRINTER OPTIONS ARE HIGHLIGHTED ON THE TOP LINE

- INSTRUCTIONS ARE ENTERED NEXT TO THE WORD

OPTIONS:

E.G.-
OPTION: JU

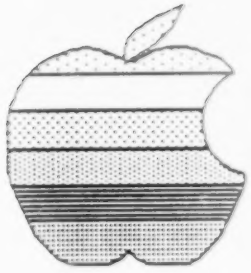
TO FIND...

...OPEN APPLE F

SLIDE #24:

- THE FIND FUNCTION ALLOWS YOU TO SEARCH THROUGH AN ENTIRE FILE FOR ALL OF THE RECORDS WHICH CONTAIN THE INFORMATION FOR WHICH YOU ARE LOOKING

TO FIND...



File: DB EXAMPLE FIND RECORDS Escape: Erase entry
Find all records that contain

= = = =

SLIDE #25:

- FIRST TYPE THE COMPARISON INFORMATION ON THE COMMAND LINE AND PRESS RETURN. THE RECORDS CONTAINING THE INFORMATION WILL BE DISPLAYED

- YOU CAN LOOK AT EACH RECORD INDIVIDUALLY IN ITS ENTIRETY BY ZOOMING IN WITH OPEN APPLE Z

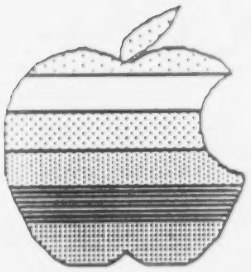
TO ARRANGE...

...OPEN APPLE A

SLIDE #26:

- ARRANGE IS AN APPLEWORKS SYNONYM FOR SORT
- IT IT POSSIBLE TO ARRANGE RECORDS WITHIN AN APPLEWORKS FILE ON THE BASIS OF INFORMATION IN ANY CATEGORY- INCLUDING CATEGORIES INVOLVING DATES AND TIMES
-

TO ARRANGE...



File: DB EXAMPLE REVIEW / ADD / CHANGE Escape: Main Menu

Selection: All records

Record 1 of 15

NAME: Evert Dirkson
SEX: M
DATE OF BIRTH: May 25 68
FAVORITE ANIMAL: elephant
FAVORITE FOOD: stew

Type entry or use @ commands @-? for help

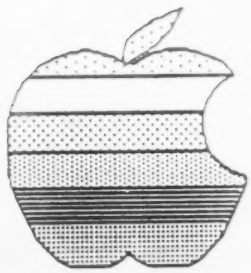
...MOVE THE CURSOR TO THE CATEGORY YOU WANT SORTED

SLIDE #27:

* USE THE TAB KEY; TO MOVE THE CURSOR TO THE CATEGORY YOU WANT SORTED (E.G.- DATE OF BIRTH)

*

TO ARRANGE...



This file will be arranged on
this category: DATE OF BIRTH

Arrangement order:

1. From A to Z
2. From Z to A
3. From 0 to 9
4. From 9 to 0
5. Chronological
6. Reversed chronological

NAME	DATE OF BIRTH	SEX	FAVORITE ANIMAL	FAVORITE FOOD
Evert Dirkson	May 25 68	M	elepahnt	stew
Lisa Williams	Mar 20 69	F	ox	hamburger
Fay Morrison	Jan 16 70	M	dog	salmon
Bill Thompson	Jul 25 70	M	horse	pizza
Elliot Samuals	Aug 12 71	M	cat	steak
Alice Kearns	Dec 12 71	F	cat	chicken

...SELECT THE ORDER

SLIDE #28:

* IN ADDITION TO BEING ABLE TO SORT ALPHABETICALLY (A TO Z, Z TO A) AND NUMERICALLY (O TO 9, 9 TO O), YOU CAN ALSO SORT CHRONOLOGICALLY BY DATE AND BY TIME

* APPLEWORKS WILL ALLOW SORTING BY DATE OR BY TIME ONLY IF THE CATEGORY NAMES INCLUDE THE WORDS 'DATE' OR 'TIME'

  E.G.- DATE OF BIRTH

* ONCE THE SORTING ORDER IS SELECTED AND YOU PRESS RETURN, THE TABLE OF RECORDS IS DISPLAYED ARRANGED IN THE NEW ORDER

*

TO SELECT...

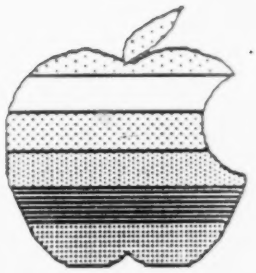
...OPEN APPLE R

SLIDE #23:

* DEFINE A RULE AND APPLEWORKS WILL SELECT JUST THOSE RECORDS WHICH CONFORM TO THE RULE

  E.G.- SELECT ALL RECORDS WHICH CONTAIN 'JEFF' AS PART OF THE NAME

TO SELECT...



File: DB EXAMPLE SELECT RECORDS Escape: Review/Add/Change

Selection:

1. NAME
2. SEX
3. DATE OF BIRTH
4. FAVORITE ANIMAL
5. FAVORITE FOOD

Type number, or use arrows, then press Return 53k Avail.

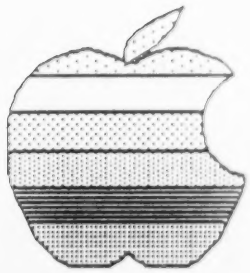
...SELECT A CATEGORY

SLIDE #30:

* TO DEFINE A SELECTION RULE, FIRST IDENTIFY THE CATEGORY OF INFORMATION INVOLVED

*

TO SELECT...



File: DB EXAMPLE SELECT RECORDS Escape: Review/Add/Change

Selection: NAME

= = = =

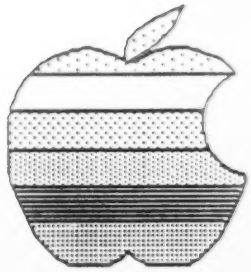
SLIDE #31:

* THEN IDENTIFY THE RELATIONSHIP WHICH APPLIES

* NOTICE THAT THE SELECTION RULE IS BEING DISPLAYED STEP-BY-STEP ON THE STATUS LINE

*

TO SELECT...



File: DB EXAMPLE SELECT RECORDS Escape: Erase entry

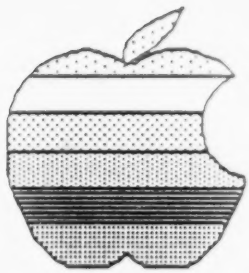
Selection: NAME contains

= = = =

SLIDE #32:

- TYPE THE COMPARISON INFORMATION AS REQUESTED ON THE COMMAND LINE AND PRESS RETURN

TO SELECT...



File: DB EXAMPLE SELECT RECORDS Escape: Review/Add/Change

Selection: NAME contains JEFF

1. and
2. or
3. through

Type number, or use arrows, then press Return 53k Avail.

File: DB EXAMPLE REVIEW / ADD / CHANGE Escape: Main Menu

Selection: NAME contains JEFF

NAME	DATE OF BIRTH	SEX	FAVORITE ANIMAL	FAVORITE FOOD
Jeff Thomas	Mar 29 76	M	cat	sloppy joes

Type entry or use @ arrows @-? for Help

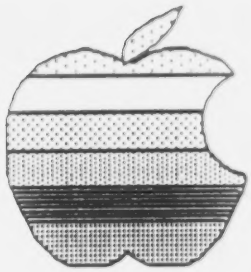
... PRESS ESC OR ADD TO YOUR RULE

SLIDE #33:

- AT THIS POINT YOU CAN INDICATE THAT THE RULE IS COMPLETE BY PRESSING ESC, OR
- ADD TO THE RULE BY EXTENDING IT WITH: AND, OR, THROUGH

  E.G.- Selection: NAME contains JEFF and SEX equals M
- ONCE THE RULE IS COMPLETE AND YOU HAVE PRESSED RETURN, A TABLE OF RECORDS WHICH CONFORM TO THE RULE IS PRESENTED

SELECTION...



QUESTION:

IDENTIFY A CATEGORY	IDENTIFY A RELATION	ENTER THE COMPARISON INFO
	equals is greater than is not equal to is blank is not blank contains begins with ends with does not contain does not begin with does not end with	

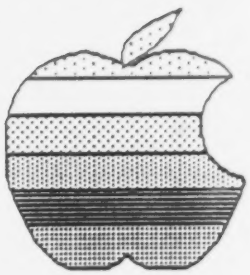
TO CREATE THE SELECTION RULE

selection:

PRESS ESC TO SEE THE LIST
OR
REPEAT THE PROCESS & EXPAND THE RULE

... PRACTICE

CREATING...



Disk: Drive 2 DATA BASE Escape: Erase entry

Main Menu

Add Files

Data Base

Make a new file:
——► From scratch
2. From a text (ASCII) file
3. From a Quick File (TM) file
4. From a DIF (TM) file

Type a name for this new file: OLYMPICS 55K Avail.

...A DATA BASE FROM SCRATCH

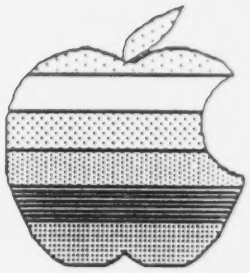
SLIDE #35:

* CREATING A DATA BASE FROM SCRATCH IS SIMILAR TO CREATING A WORD PROCESSOR FILE

* YOU MUST TYPE A NAME FOR THE FILE ON THE COMMAND LINE

*

CLEAR...



File: OLYMPICS CHANGE NAME / CATEGORY Escape: Review/Add/Change

Category names

= = = =

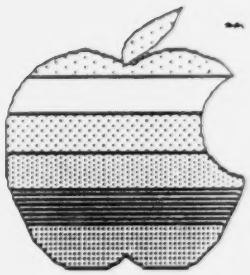
SLIDE #36:

* ALL OF THE CATEGORY NAMES WILL BE ENTERED ON THE LEFT SIDE OF THE SCREEN

* PRESS OPEN APPLE Y TO CLEAR THIS SPACE

*

DEFINE...



File: OLYMPICS CHANGE NAME / CATEGORY Escape: Review/Add/Change

Category names

COMPETITION
EVENT
GOLD
COUNTRY 1
SILVER
COUNTRY 2
BRONZE
COUNTRY 3
WINNING MARK

Options:
Type category name
Up arrow Go to previous category

Type entry or use @ commands 55k Avail.

...THE CATEGORIES & ESC

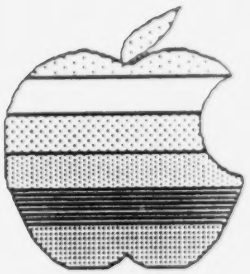
SLIDE #37:

* TYPE A CATEGORY NAME AND PRESS RETURN TO GO ON TO THE NEXT

* NOTICE THAT THE OPTIONS ON THE RIGHT ALLOW YOU TO GO BACK TO A PREVIOUSLY DEFINED CATEGORY IF YOU DISCOVER, FOR EXAMPLE, THAT YOU HAVE MADE A SPELLING ERROR

* ONCE ALL OF THE CATEGORIES HAVE BEEN DEFINED, PRESS THE ESC KEY AND YOU CAN BEGIN TO ENTER DATA

READY TO...



File: OLYMPICS INSERT NEW RECORDS Escape: Erase entry

Record 1 of 1

COMPETITION: BOXING_
EVENT: -
1st: -
COUNTRY 1: -
2nd: -
COUNTRY 2: -
BRONZE: —
COUNTRY'S: —
WINNING MARK: —

Type entry or use @ commands 55k Avail.

...ENTER DATA

SLIDE #38:

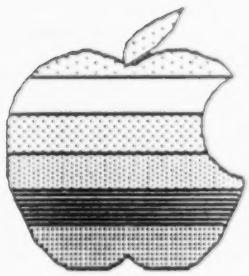
* THE CURSOR WILL MOVE FROM CATEGORY TO CATEGORY AS YOU ENTER INFORMATION

* REMEMBER TO PRESS RETURN AFTER EACH ENTRY

* AFTER AN ENTRY IS MADE IN THE LAST CATEGORY, A NEW RECORD IS PRESENTED AND YOU CAN REPEAT THE PROCESS FOR ANOTHER RECORD OR PRESS ESC TO SIGNAL THAT YOU ARE THROUGH

* REMEMBER TO SAVE YOUR FILE WITH OPEN APPLE S WHEN YOU HAVE FINISHED ENTERING DATA

CHANGE...



File: DB EXAMPLE CHANGE RECORD LAYOUT Escape: Review/Add/Change

= = = =

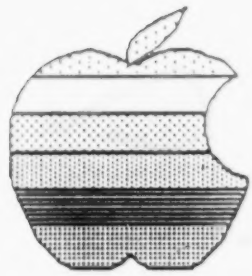
SLIDE #39:

- WHEN RECORDS ARE DISPLAYED IN A TABLE ON THE SCREEN YOU WILL TYPICALLY NOT BE ABLE TO SEE ALL OF THE CATEGORIES. YOU CAN USE OPEN APPLE L TO CHANGE THE LAYOUT OF THE TABLE SO THAT YOU CAN SEE THE CATEGORIES IN WHICH YOU ARE INTERESTED

- SWITCHING COLUMN POSISTIONS WITH OPEN APPLE < OR OPEN APPPLE> IS THE EASIEST WAY TO CHANGE THE LAYOUT

- COLUMNS CAN ALSO BE DELETED FROM THE DISPLAY (NOT FROM THE FILE ITSELF) WITH OPEN APPLE D AND NEW CATEGORIES INSERTED

DB REPORT...



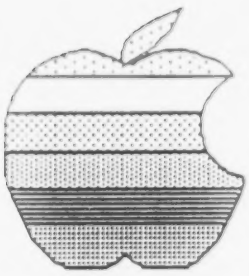
File: DB EXAMPLE REPORT MENU Escape: Review/Add/Change
Report: None

= = = =

SLIDE #40:

- OPEN APPLE P GETS APPLEWORKS READY TO PRINT A REPORT
- IF THE FORMAT IS NEW, YOU WILL WANT TO SELECT OPTION #2 AND CREATE A NEW TABLES FORMAT
- IF THE REPORT FORMAT IS ONE THAT WAS PREVIOUSLY CREATED, SELECT OPTION #1
-

DB REPORT...



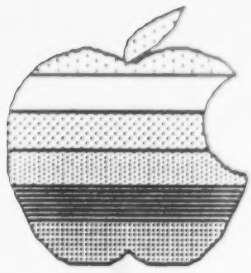
File: DB EXAMPLE NAME THE NEW REPORT Escape: Erase entry
Report: None

= = = =

SLIDE #41:

- ENTER THE NAME OF THE REPORT ON THE COMMAND LINE
-

DB REPORT...



File: DB EXAMPLE REPORT FORMAT Escape: Report Menu
Report: EXAMPLE
Selection: All records

——► or ◄—— Move cursor	@ - J Right justify this category
► @ ◄ Switch category positions	@ - K Define a calculated category
——► @ ◄—— Change column width	@ - N Change report name and/or title
@ - A Arrange (sort) on this category	@ - O Printer options
@ - D Delete this category	@ - P Print the report
@ - G Add/remove group totals	@ - R Change record selection rules
@ - I Insert a prev. deleted category	@ - T Add/remove category totals

NAME	SEX	DATE OF BIRT	FAVORITE ANI	FAVORITE FOO	L
-A- - - - -	-B- - -	-C- - - - - -	-D- - - - - - - -	-E- - - - - - - -	e
Evert Dirkso	M	May 25 68	elephant	stew	n
Lisa William	F	Mar 20 69	ox	hamburger	6
Fay Morrison	M	Jan 16 70	dog	salmon	5

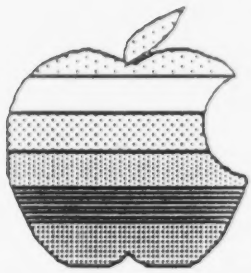
Use options shown above to change report format 53K Avail.

... DESIGN THE LAYOUT

SLIDE #42:

- ORGANIZING THE LAYOUT OF THE REPORT IS LIKE MODIFYING THE LAYOUT OF THE DISPLAY ON THE SCREEN WITH OPEN APPLE L
- NOTIC THAT IT IS POSSIBLE TO ARRANGE ON ANY CATEGORY AND DEFINE A SELECTION RULE
-

DB REPORT...



File: DB EXAMPLE
Report: EXAMPLE
Selection: All records

PRINT THE REPORT

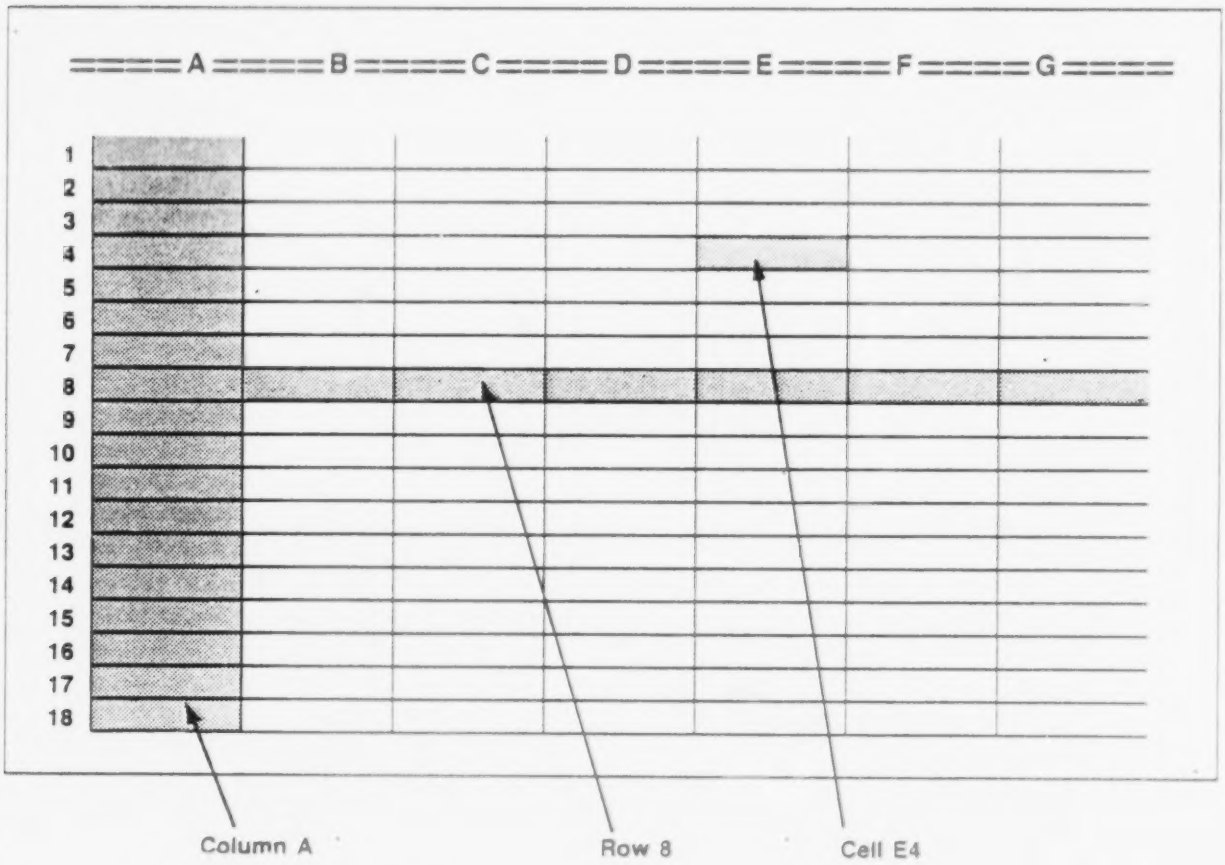
Escape: Report Format

= = = =

SLIDE #43:

* PRESS OPEN APPLE P ONCE MORE TO ACTUALLY PRINT THE REPORT
* SELECT THE TYPE OF PRINTER TO WHICH YOUR COMPUTER IS CONNECTED
* NOTICE THAT IT IS ALSO POSSIBLE TO PRINT THE REPORT ON THE SCREEN TO TEST THE LAYOUT. IT WILL APPEAR ON THE SCREEN JUST AS IT WOULD ON PAPER

SPREADSHEET...



... LOCATIONS

SLIDE #44:

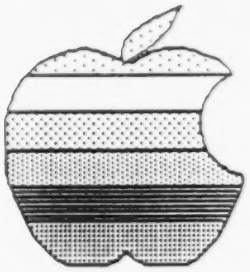
* COLUMNS ARE DESIGNATED BY LETTERS; ROWS BY NUMBERS

* INDIVIDUAL CELLS ARE REFERED TO BY LETTER FIRST, THEN NUMBER

  E.G.- E4, C16

*

SPREADSHEET...



BEGIN A	WITH A
LABEL	letter or a "
Name, shots ''	
VALUE 12, 0, 1.25	number or a decimal point
FORMULA +A4 + B9 @ sum (A9 ...E9) (A4 / B4) * 100	+, —, (, or @

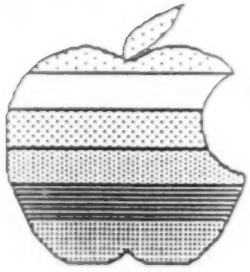
... ENTRIES

SLIDE #45:

- EXAMPLES AND NONEXAMPLES

	LEGAL	NOT LEGAL
LABELS	NAME	
	GRADE	
	"---------	----------
	"I=========I	
	C4 + C3	+C4 + C3
VALUES	12.85	ZERO
	.09	
	0.09	
FORMULAS	+C4 - C3	C4 - C3
	(C4 - C3)	
	@MAX (A1...A10)	
	@AVG (A1...F1)	
	@SUM (A1...F1)/6	

SPREADSHEET...



Spreadsheet formulas like:

+ A4 / D4 and (BIO-B11) / B11 * 100

May include any of these functions:

@SUM, @AVG, @MAX, @MIN

for example —

@ SUM (A1 ...A40)

@ AVG (A1 ...D1)

@ MAX (A1 ...A40)

@ MIN (A1 ...A40) / @AVG (A1 ...A40) *

...FORMULAS & FUNCTIONS

SLIDE #46:

- APPLEWORKS SPREADSHEET FORMULAS ARE EVALUATED LEFT TO RIGHT AND NOT ACCORDING TO THE NORMAL ORDER OF OPERATIONS YOU ARE USED TO!!!

- HOW WOULD YOU FIND:

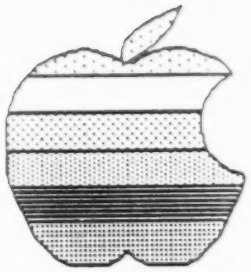
  THE DIFFERENCE BETWEEN THE CONTENTS OF CELL B3 AND B2? <+B3 - B2>

  THE SUM OF THE CONTENTS OF THE CELLS IN COLUMN A FROM ROW 1 TO ROW 20? <@SUM (A5...M5)?

  THE LARGEST VALUSE IN COLUMN M FROM ROWS 5 TO 100? <@MAX (M5...M100).

-

COPYING CELLS...



File: BB STATS COPY Escape: Review / Add / Change

	A	B	C	D	E	F	G	H
1.								
2.								
3.								
4.	Name							
5.	= = = = = =							
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								

A 6

Copy? **Within worksheet** To Clipboard From clipboard

...SELECT WITHIN WORKSHEET

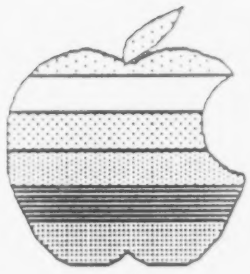
SLIDE #47:

* COPYING SPEADSHEET ENTRIES LIKE THE LABEL IN CELL A5 IS FREQUENTLY A CONVENIENT THING TO DO

* THE PROCESS APPLIES TO ANY TYPE OF ENTRY: LABEL, VALUE, OR FORMULA

*

COPYING CELLS...



File: BB STATS COPY Escape: Review / Add / Change

	A	B	C	D	E	F	G	H
1.								
2.								
3.								
4.	Name							
5.	-------							
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								

A6

Use cursor moves to highlight Source, then press Return 47K Avail.

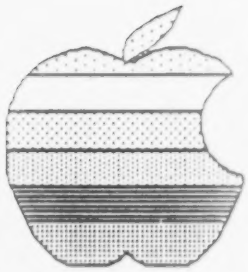
...HIGHLIGHT THE COPY-FROM CELL

SLIDE #48:

* HIGHLIGHT THE COPY-FROM CELL(S) USING THE ARROW KEYS

*

COPYING CELLS...



File: BB STATS COPY Escape: Review / Add / Change

A B C D E F G H

1.
2.
3.
4. Name
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.

B5

Move to new location, them press "." or Return 47K Avail.

... HIGHLIGHT THE COPY-TO CELL(S)

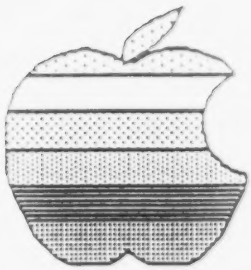
SLIDE #49:

- IF YOU ONLY WANT TO COPY INTO ONE CELL, MOVE THE CURSOR TO THAT LOCATION AND PRESS RETURN

- IF YOU WANT TO COPY INTO SEVERAL ADJOINING CELLS, MOVE TO THE FIRST ONE, PRESS THE PERIOD KEY, USE THE ARROW KEYS TO HIGHLIGHT ALL OF THE COPY-TO CELLS, AND PRESS RETURN.

-

PRINTING A SS...



File: BASKETBALL STAT PRINT Escape: Review / Add / Change

	A	B	C	D	E	F	G	H
1.								
2.								
3.			SHOTS		FREE THROWS		REBOUNDS	
4.	Name	A		M	A	M	OFF	DEF
5.								
6.								
7.	BONNELL	28		13	6	4	3	5
8.	CAWDRY	15		5	5	2	18	22
9.	COULOMBE	12		4	15	5	3	4
10.	DIXON	28		15	12	7	6	7
11.	HOGAN	12		7	10	4	12	10
12.	HOWE	22		12	8	3	11	15
13.	KEENEY	16		7	4	1	4	7
14.	MOSHER	34		20	12	6	15	25
15.								
16.								
17.								
18.	TOTALS	167		83	72	32	72	95

A1

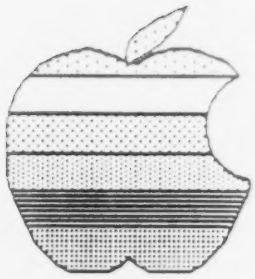
Print? All Rows Columns Block

...WHAT PART?

SLIDE #50:

- IF YOU DO NOT WANT TO PRINT THE ENTIRE SPREADSHEET, SELECT ONE OF THE OTHER CHOICES AND USE THE ARROW KEYS TO HIGHLIGHT THE PORTION YOU WANT PRINTED

PRINTING A SS...



File: BASKETBALL STAT PRINT Escape: Review/Add/Change

The information that you indentified is
70 characters wide.

The Printer Options values allow 80
characters per line.

Where do you want to print the report.

1. **ImageWriter**
2. **APPLE DMP**
3. **The clipboard** (for the Word Processor)
4. **A text (ASCII) file on disk**
5. **A DIF (TM) file on disk**

Type number, or use arrows, then press Return 46K Avail.

...WHERE?

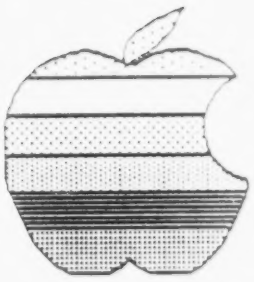
SLIDE #51:

- SELECT THE TYPE OF PRINTER THAT IS CONNECTED TO YOUR COMPUTER

- NOTICE THAT YOU ARE TOLD THE WIDTH OF THE REPORT YOU WILL BE PRINTING AND THE WIDTH ALLOWED ON YOUR PRINTER. YOU MAY NEED TO MAKE SOME ADJUSTMENT.

-

CLIPBOARD...



File: FILE1 COPY TEXT Escape: Review/Add/Change

This sentence is going to be copied.

It is part of FILE1 now.

COPY Text? Within document **To clipboard (cut)** From clipboard (paste)

...CUT

SLIDE #52:

- THE CLIPBOARD IS A PART TO THE COMPUTER'S MEMORY THAT ALLOWS YOU TO TEMPORARILY STORE PARTS OF YOUR WORK THAT YOU WANT TO MOVE (CUT) FROM ONE FILE AND PUT (PASTE) INTO ANOTHER

- YOU CAN USE EITHER OPEN APPLE M OR OPEN APPLE C (FOR COPY) TO ACCOMPLISH THE TRANSFER

-

CLIPBOARD...

File: FILE1 COPY TEXT Escape: Main Menu

This sentence is going to be copied.

It is part of FILE1 now.

Desktop Index	
1. DB EXAMPLE	DB
2. FILE1	WP
3. FILE2	WP

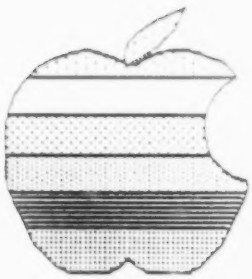
Type number, or use arrows, then press Return 52K Avail.

...SWITCH FILES

SLIDE #53:

- ASSUMING THAT THE NEW FILE IS ON THE DESKTOP (LOADED INTO THE COMPUTER'S MEMORY), YOU CAN USE OPEN APPLE Q TO QUICKLY SWITCH OVER TO THAT FILE

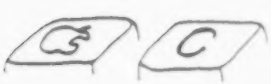
CLIPBOARD...



File: FILE2 COPY TEXT Escape: Review/Add/Change

This sentence is going to be copied.

It is part of FILE2 now.



Copy Text? Within document To clipboard (cut) From clipboard (paste)

...PASTE

SLIDE #54:

- AGAIN YOU CAN USE EITHER OPEN APPLE M OR OPEN APPLE C TO TRANSFER (PASTE) THE MATERIAL FROM THE CLIPBOARD INTO THE NEW FILE

-

CLASSWORKS: *APPLEWORKS* FOR THE CLASSROOM

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>
> —*Classroom Computer Learning*

> "Teaching computer applications, like library skills instruction, can be difficult when the student is unable to visualize a personal application of the skill. However, Rick Thomas...has largely overcome this stumbling block to motivation through his choice of practice excercises. ...A stellar program."
>
> —*Apple Library Users Group Newsletter*

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Shipping Costs

Total Cost of Books	Amount
$0-$20.99	$2.85
$21.00-$50.99	$3.95
$51.00-$100.99	$5.00
$101+	5% of total

Total	=
If billed with P.O. add $2.50	+
Shipping	+
Add 9% if shipped to P.O. Box, AK, HI, or outside the U.S.	+
Deduct 10% if ISTE Member	-
GRAND TOTAL	

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Name on Card _____

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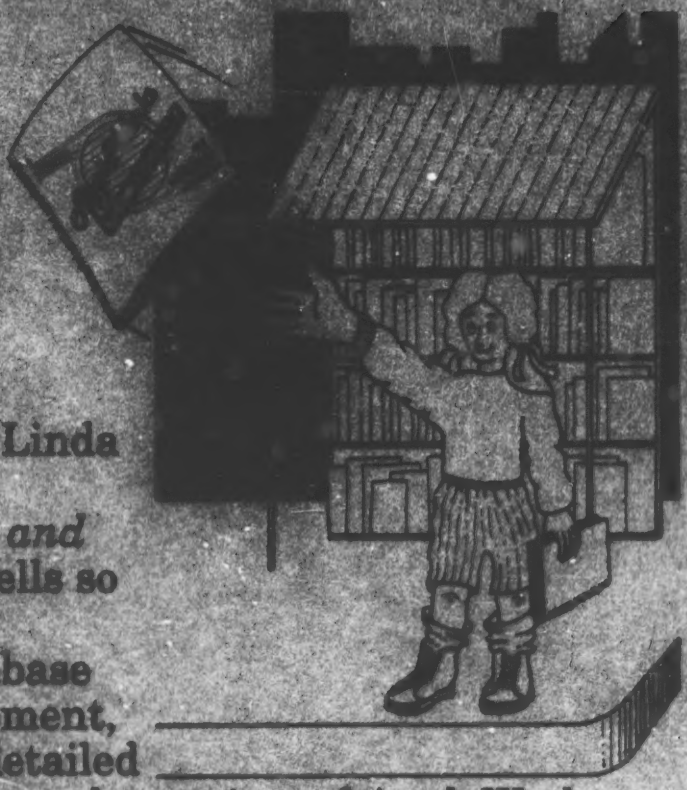

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